

2018 Aug-15 PM 04:22
U.S. DISTRICT COURT
N.D. OF ALABAMA

DRUM003427

TTL

LIMS Chain of Custody Form

Client: Skarnes, Davis, Florie, LLP
Contact: Lynn Sisk - TTL-Montgomery

Mailing Address:

City, State, Zip:

Phone No.:

Sampled By:

Project ID: Locust Fork-T2URB

Project Name: Locust Fork - Surface Water - T2URB - 60D216085

Composite Sample Info

Sample

Start

End

Sample

Start

End

1. Condition of Contents:

2. Sealed for Shipping By:

3. Initial Contents Temp.: °C Seal Applied Yes No

4. Custody Seal Intact Upon Receipt by Laboratory: Yes No

5. Condition of Contents:

6. Comments:

7. Reporting Status: Routine; Rush By

8. Client P.O. #

Date	Time	Sample ID/Description	Sample Type	Sample Method	Sample Containers	Analysis Parameters
2/16/17	1227	T2URB	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1227	T2URB	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1219	T2UMC-TOP	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1219	T2UMC-TOP	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1213	T2UMC-BOT	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1213	T2UMC-BOT	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1224	T2UMP-TOP	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1224	T2UMP-TOP	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1222	T2UMP-BOT	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1222	T2UMP-BOT	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW

Relinquished by: (Signed) Date/Time
1. Lynn Sisk 2/16/17 1530

Received by (signed) Date/Time

1. _____
2. _____
3. _____
4. _____

SHIPPING DETAILS

Air Bill #:

Method of Shipment:

Received By Lab:

Date/Time

2-16-17 15:30

TTL, Inc. - Tuscaloosa Office/Laboratory: 3516 Greensboro Avenue, Tuscaloosa, Alabama 35401, Telephone (205) 345-0816, FAX (205) 345-0992
NOTE: Please read terms and conditions between TTL, Inc. and client on back of form.



LIMS Chain of Custody Form

Client: **Starnes, Davis, Florie, LLP**
 Contact: **Lynn Sisk - TTL-Montgomery**

Mailing Address:

City, State, Zip:

Phone No.:

Sampled By:

Project ID: **Locust Fork-T3URB**

Project Name: **Locust Fork - Surface Water - T3URB - 800218085**

Composite Sample Info

Sample

Start

End

Sample

Start

End

1. Condition of Contents:

2. Sealed for Shipping By:

3. Initial Contents Temp.: _____ °C Seal Applied Yes No

4. Custody Seal Intact Upon Receipt by Laboratory: Yes No

5. Condition of Contents: Good

6. Comments: 490 CUMD

7. Reporting Status: Routine; _____; Rush By: _____

8. Client P.O. # _____

Date	Time	Sample ID/Description	Sample Type	Sample Method	Sample Containers	Analysis Parameters
2/16/17	1251	T3URB	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1251	T3URB	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1240	T3UMC-TOP	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1240	T3UMC-TOP	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1237	T3UMC-BOT	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1237	T3UMC-BOT	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1246	T3UMP-TOP	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1246	T3UMP-TOP	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1243	T3UMP-BOT	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1243	T3UMP-BOT	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW

CUSTODY TRANSFERS

Relinquished by: (signed) Date/Time

1. Lynn Sisk 2/16/17 1530

Received by: (signed) Date/Time

1. _____

2. _____

3. _____

4. _____

9. Air Bill #:

Method of Shipment: Hand

Received By Lab: Sisk

Date/Time 2-16-17 15:30

SHIPPING DETAILS

TTL, Inc. - Tuscaloosa Office/Laboratory: 3516 Greensboro Avenue, Tuscaloosa, Alabama 35401, Telephone (205) 345-0816, FAX (205) 345-0992

NOTE: Please read terms and conditions between TTL, Inc. and client on back of form.

TERMS AND CONDITIONS BETWEEN TTL AND CLIENT

SECTION 1. SITE RESPONSIBILITY

- 1.1 Client will provide right of entry for TTL and all necessary equipment in order to complete the Work Authorized.
- 1.2 While TTL will take reasonable precautions to minimize any damage to Client's property, Client acknowledges that in the normal course of performing the Work Authorized some damage to landscaping, pavement or other property may occur. Client agrees that the correction of such damage is not TTL's responsibility but will be undertaken by Client at Client's sole expense.
- 1.3 TTL may provide observation of the work of the contractor or subcontractor. TTL does not guarantee the performance of the contractor or TTL's performance of such construction observation. TTL's undertaking hereunder shall not relieve the contractor of the obligation to perform the work in conformity with the contract documents including plans and specifications. TTL's monitoring of any construction work or other activities is not intended to constitute a warranty of any kind, and Client agrees that Client shall have the right to stop the work of others.

SECTION 2. PROJECT INFORMATION

- 2.1 Client will furnish to TTL all plans, specifications, project requirements, drawings, guidelines and/or any other project information (referred to herein as Project Information) necessary to perform the Work Authorized, which will include, but not be limited to, testing, observations, and monitoring. Client shall be responsible for furnishing to TTL any changes in said Project Information of which Client becomes aware or which are made by Client as the work progresses.

SECTION 3. STANDARD OF CARE

- 3.1 Service performed by TTL under this agreement will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. No other warranty, expressed or implied is made or intended and the same are specifically disclaimed. Client shall not be entitled to assert a claim against TTL based on any theory of negligence or violation of the standard of care unless and until Client has obtained the written opinion from a licensed, independent and reputable engineering and/or environmental professional as appropriate for the services in question that TTL has violated the standard of care applicable to TTL's performance of those services under this agreement.

- 3.2 Field test and boring locations described in our report to Client or shown on our sketches are based on specific information furnished to us by Client and/or others or estimates made in the field by our technicians. All such dimensions, depths or elevations are approximations unless otherwise stated in our report.

- 3.3 Client recognizes that conditions may vary from those encountered at the location where borings, samplings, surveys, or explorations are made by TTL and that site and subsurface conditions may change over time. Client understands that the data, interpretations, and recommendations of TTL are based solely on the information available to TTL at the time of testing. TTL will be responsible for the data, interpretations, and recommendations developed by TTL, but shall not be responsible for the interpretation by others of the information developed.

- 3.4 When requested by Client, TTL will adhere to Project Information which as provided to TTL by Client. However, Client agrees that TTL will not be responsible for any adverse outcome which results from TTL's adherence to that Project Information. It is agreed that TTL will not be liable for any such adverse outcome and Client will defend, hold harmless and indemnify TTL from and against all losses, costs, expenses and damages, including but not limited to attorneys' fees and court costs, which may be incurred by or on account of TTL's performance or non-performance in reliance upon the Project Information.

SECTION 4. RISK ALLOCATION

- 4.1 There are relative risks and benefits for TTL and Client arising from their agreement regarding the Work Authorized. TTL and Client have discussed these risks and benefits and have negotiated to allocate the risks as described in Section 4.2.

- 4.2 TTL agrees to perform the Work Authorized for the compensation agreed and Client agrees, to the fullest extent allowed by law, to limit the total aggregate liability of TTL and that of its officers, directors, employees, assigns and subcontractors for any and all costs, losses, claims, expenses and damages of any nature whatsoever, which might be claimed and proven by Client or any third party relative to the Work Authorized, due to or on account of any claims and/or damages of action against TTL, but not limited to negligence, professional errors and omissions, strict liability, breach of contract and breach of warranty. This allocation of risks shall apply regardless of the cause of action or legal theory pleaded or asserted. TTL will consider providing higher limits at the Client's written request prior to accepting our proposal, provided Client pays additional consideration. The additional consideration for the higher liability limit is because of the greater risk assumed by TTL, Inc. and is not a charge for additional professional liability insurance. Client's signature indicates Client's acknowledgment of and agreement with the allocation of risks as set out in this Section 4.2.

- 4.3 Limitations on liability and indemnities in this agreement are business understandings between the parties and shall apply to all the different theories of recovery, including breach of contract or warranty, tort including negligence, strict or statutory liability, or any other cause of action, except for willful misconduct or gross negligence. Parties mean Client and TTL and their officers, employees, agents, affiliates and subcontractors. The parties also agree that Client will not seek damages in excess of the limitations indirectly through suits with other parties who may join TTL as a third party defendant.

- 4.4 Whether Client and TTL agree to proceed under Section 4.2 above, both agree, to the fullest extent allowed by law, that neither will be liable to the other, under any circumstances, for any special, indirect, consequential, or punitive damages whatsoever arising out of or related to this agreement.

NOTE: Sections 5 through 7 shall apply if sampling, testing or other intrusive services are part of TTL's scope of services.

SECTION 5. SUBTERRANEAN STRUCTURES AND UTILITIES

- 5.1 In the prosecution of the Work Authorized, TTL will take reasonable precautions to avoid damage or injury to subterranean structures or utilities.

- 5.2 Client will inform TTL of the locations of all subterranean structures and utilities on Client's property before the work authorized begins. Client agrees to hold TTL harmless for any damages to subterranean structures and utilities which are not brought to TTL's attention and not correctly shown in the Project Information furnished.

- 5.3 TTL will contact the local A-one-call utility authority, but assumes no responsibility with respect to utilities beyond that action.

SECTION 6. OWNERSHIP OF DOCUMENTS AND SAMPLES

- 6.1 All reports, borings logs, field data, test specimens, drilling samples, field notes, laboratory test data, calculations, estimates, and other documents prepared by TTL, as instruments of service, shall remain the property of TTL. These documents, specimens and samples will be considered confidential, and they will not be available to any other entity unless express consent is obtained in writing from Client.

- 6.2 TTL will render a Report (written or verbal, as particular circumstances dictate) to Client regarding the work performed.

- 6.3 Client agrees that any written Report and other work furnished to Client or Client's agents, for which full payment has not been made to TTL, will be returned to TTL upon demand and will not be used by Client for any purpose whatsoever if disseminated to any third parties by Client.

- 6.4 TTL will retain pertinent documents relating to the services performed for a period of five (5) years following submission of TTL's Report, during which period the documents will be made available to Client within a reasonable time after TTL receives a written request from Client specifically identifying the documents sought.

SECTION 7. DISPOSAL OF SAMPLES

- 7.1 Test specimens will be disposed of immediately upon completion of tests. Drilling samples will be disposed of thirty (30) days after completion of the Work Authorized. From the time a written request is received before the disposal dates identified in this Section 7.1, TTL will retain test specimen and/or drilling samples for a mutually acceptable storage charge.

SECTION 8. DISCOVERY OF UNANTICIPATED HAZARDOUS MATERIALS

- 8.1 Client warrants that a reasonable effort to inform TTL of known or suspected hazardous materials on or near the project site has been made.

- 8.2 Hazardous materials may exist at a site where there is no reason to believe they could or should be present. TTL and Client agree that the discovery of unanticipated hazardous materials may constitute a changed condition mandating a renegotiation of the Work Authorized or termination of services. TTL and Client also agree that the discovery of unanticipated hazardous materials may make it necessary for TTL to take immediate measures to protect health and safety. Client agrees to compensate TTL for any costs it may incur, such as, but not limited to, equipment decontamination costs or other costs incident to the discovery of unanticipated hazardous waste.

- 8.3 During the performance of the Work Authorized, TTL agrees to notify Client when unanticipated hazardous materials or suspected hazardous materials are encountered. Client agrees to make any disposals required by law to the appropriate governing agencies. Client also agrees to hold TTL harmless for any and consequences required by law to the appropriate governing agencies. Client agrees to indemnify TTL from and against all losses, costs, expenses and damages, including but not limited to attorneys' fees and court costs, which may be incurred by or on account of TTL's performance or non-performance in reliance upon the Project Information.

- 8.4 Notwithstanding any other provision of the agreement, Client waives any claim against TTL and to the maximum extent permitted by law, agrees to defend, indemnify, and hold TTL harmless from any claim, liability, and/or defense costs for injury or loss arising from TTL's discovery of unanticipated hazardous materials or suspected hazardous materials, including, but not limited to, any costs created by delay of the Work Authorized, delay of Client's project and/or cost associated with possible reduction of the property's value.

- 8.5 Client will be responsible for ultimate proper disposal of any samples secured by TTL which are found to be contaminated.

SECTION 9. BIOLOGICAL POLLUTANTS

- 9.1 Except to the degree specified in the accompanying protocol letter, work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. This term "Biological Pollutants" includes, but is not limited to, molds, fungi, bacteria, viruses, or other microorganisms. TTL's Inspection Services will not include any investigation or interpretation of test results, findings, or conclusions pertaining to Biological Pollutants. Client agrees that TTL has no liability for any claims alleging a failure to investigate, detect, prevent, assess, or make recommendations for preventing, controlling, or abating Biological Pollutants. Furthermore, Client agrees to defend, indemnify, and hold TTL harmless from all claims by any third party concerning Biological Pollutants, except any damages caused directly by TTL's sole negligence.

SECTION 10. INSURANCE

- 10.1 TTL represents and warrants that it and its agents, staff, and consultants employed by it are protected by worker's compensation insurance and that TTL has such coverage under public liability and property damage insurance policies as TTL deems to be adequate. Certificates for all such policies of insurance will be provided to Client if Client so requests in writing. Within the limits and conditions of such insurance, TTL agrees to indemnify and save Client harmless from and against any loss, damage, or liability arising from any negligent acts, errors or omissions in connection with the Professional Services performed by TTL, its agents, staff, and consultants employed by it. Any other provision of these General Conditions notwithstanding, it is agreed by Client and TTL that TTL shall not be responsible for any loss, damage, or liability beyond the amounts, limits, and conditions of such insurance. TTL shall not be responsible for any loss, damage, or liability arising from any acts by Client, its agents, staff, and other consultants employed by it.

SECTION 11. INVOICES

- 11.1 The Work Authorized will be accomplished in a timely, workmanlike, and professional manner by TTL at the unit fees quoted, or as otherwise agreed herein. If, during the execution of the Work Authorized, TTL is required to stop operations as a result of changes in the Work Authorized, such as requests by the Client or requirements of third parties, additional charges may be applicable.

- 11.2 As deemed appropriate by TTL, Client may be required to complete a credit application and/or obtain personal or corporate guarantees prior to the commencement of or during the performance of the Work Authorized.

- 11.3 TTL will submit to Client invoices on a monthly basis and a final bill upon completion of work. Invoices will show charges for different personnel and expense classifications. A more detailed separation of charges and back-up data can be provided upon Client's specific prior written request.

- 11.4 Payment is due upon presentation of invoice and is past due thirty (30) days after the invoice date. If payment is not received by TTL within 30 days from the date of TTL's invoice, client agrees to pay the lesser of 1 % per month or the maximum rate allowed by law, on the past due amount until the amount is paid in full, plus the hourly rate for the time of TTL's employees, reasonable attorney fees, and all other costs incurred by TTL in collecting the amounts due TTL under this agreement.

SECTION 12. TERMINATION

- 12.1 The agreement between TTL and Client may be terminated by either party upon seven (7) days written notice to the other in the event of substantial failure by the other party to perform in accordance with the terms hereof. Such termination shall not be effective if that substantial failure has been remedied before expiration of the period specified in the written notice. In the event of termination, TTL shall be paid for services performed to the termination notice date plus reasonable termination expenses.

13. DISPUTE RESOLUTION

- 13.1 In the unlikely event a dispute or claim or breach arises out of this Agreement, the parties will attempt to settle the dispute amongst each other. Failing that, the parties will agree to settle any such dispute, claim, or breach through Mediation, where a non-biasing mediator is chosen by the American Arbitration Association (AAA); however, this mediation provision shall not apply to disputes regarding payment of TTL's fees where this may be a violation of state or applicable law. Notwithstanding anything above to the contrary, the parties agree that the mediation proceedings shall be held in Tuscaloosa, Alabama.

SECTION 14. ASSIGNS

- 14.1 Neither the Client nor TTL may delegate, assign, sublet or transfer their duties under or interest in this agreement without the prior written consent of the other party.

SECTION 15. SEVERABILITY

- 15.1 Any term or provision of this agreement found to be invalid under any applicable statute or rule of law shall be deemed omitted and the remainder of this agreement shall remain in full force and effect.

SECTION 16. GOVERNING LAW

- 16.1 Client and TTL agree that this agreement and any legal actions concerning its validity, interpretation and performance shall be governed by the laws of the State of Alabama.

SECTION 17. ENTIRE AGREEMENT

- 17.1 This agreement and its attachments constitute the entire agreement between TTL and Client. All understandings and agreements heretofore reached by and between TTL and Client are merged into this agreement, which alone fully and completely expresses their understandings. No representation or warranty made by any party which is not contained herein or expressly referred to herein has been relied on by any party entering into this agreement. Nothing under this agreement shall be construed to give any rights or benefits in this agreement to anyone other than the Client and TTL, and all duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of the Client (Owner) and TTL and not for the benefit of any other party.

DRUM003430

DRUM003431



LIMS Chain of Custody Form

Client: **Starnes, Davis, Florie, LLP**
 Contact: **Lynn Sisk - TTL-Montgomery**

Mailing Address:

City, State, Zip:

Phone No.:

Sampled By:

Project ID: **Locust Fork-T4URB**

Project Name: **Locust Fork - Surface Water - T4URB - 60D216065**

Composite Sample Info

Sample

Start

End

Sample

Start

End

Sample Security Requirements

1. Condition of Contents:

2. Sealed for Shipping By:

3. Initial Contents Temp.: _____ °C Seal Applied Yes No

4. Custody Seal Intact Upon Receipt by Laboratory: Yes No

5. Condition of Contents:

6. Comments:

7. Reporting Status: Routine; _____; Rush By*

8. Client P.O. #

Date	Time	Sample ID/Description	Sample Type	Sample Method	Sample Containers	Analysis Parameters
2/16/17	1315	T4URB	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1315	T4URB	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1305	T4UMC-TOP	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1305	T4UMC-TOP	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1303	T4UMC-BOT	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1303	T4UMC-BOT	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1312	T4UMP-TOP	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1312	T4UMP-TOP	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1309	T4UMP-BOT	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1309	T4UMP-BOT	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW

Relinquished by: (signed) Date/Time

1 *Lynn Sisk* 2/16/17 1530

Received by (signed) Date/Time

1 _____

Air Bill #:

Method of Shipment:

Received By Lab:

Date/Time

TTL, Inc. - Tuscaloosa Office/Laboratory: 3516 Greensboro Avenue, Tuscaloosa, Alabama 35401, Telephone (205) 345-0816, FAX (205) 345-0882

NOTE: Please read terms and conditions between TTL, Inc. and client on back of form.

DRUM003433



LIMS Chain of Custody Form

Client: Starnes, Davis, Florie, LLP

Contact: Lynn Sisk - TTL-Montgomery

Mailing Address:

City, State, Zip:

Phone No.:

Sampled By:

Project ID: Locust Fork-T5URB

Project Name: Locust Fork - Surface Water - T5URB - 600218083

Composite Sample Info

Sample _____

Start _____ DATE/TIME

End _____ DATE/TIME

Sample _____

Start _____ DATE/TIME

End _____ DATE/TIME

Sheet 1 of 1

Sample Security Requirements

1. Condition of Contents: _____
2. Sealed for Shipping By: _____
3. Initial Contents Temp.: _____ °C Seal Applied Yes No
4. Custody Seal Intact Upon Receipt by Laboratory: Yes No
5. Condition of Contents: Good - 15L
6. Comments: 4.7% GARD
7. Reporting Status: Routine; _____; Rush By: _____
8. Client P.O. # _____

Date	Time	Sample ID/Description	Sample Type	Sample Method	Sample Containers	Analysis Parameters
2/16/17	1336	T5URB	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1336	T5URB	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1326	TSUMC-TOP	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1326	TSUMC-TOP	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1323	TSUMC-BOT	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1323	TSUMC-BOT	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1332	TSUMP-TOP	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1332	TSUMP-TOP	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1330	TSUMP-BOT	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1330	TSUMP-BOT	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW

Relinquished by (signed) Date/Time
 1. Jay Sisk 2/16/17 1530

Received by (signed) Date/Time

Air Bill #: _____
 Method of Shipment: Hand
 Received By Lab: Sisk
 Date/Time: 2-16-17 15:30

TTL, Inc. - Tuscaloosa Office/Laboratory: 3516 Greensboro Avenue, Tuscaloosa, Alabama 35401, Telephone (205) 345-0816, FAX (205) 345-0992

NOTE: Please read terms and conditions between TTL, Inc. and client on back of form.

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SECTION 1. SITE RESPONSIBILITY

1.1 Client will provide right of entry for TTL and all necessary equipment in order to complete the Work Authorized.

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1.3 TTL may provide observation of the work of the contractor or subcontractor. TTL does not guarantee the performance of the contractor by TTL's performance of such construction observation. TTL's undertaking hereunder shall not relieve the contractor of his obligation to perform the work in conformity with the contract documents including plans and specifications. TTL's monitoring of any contractor's or subcontractor's procedures is not intended to include a review of the adequacy of such contractor's or subcontractor's safety measures on or near the site. It is agreed TTL is not responsible for safety or security at the site, and TTL does not have the right or duty to stop the work of others.

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2.1 Client will furnish to TTL all plans, specifications, project requirements, drawings, guidelines and/or any other project information (referred to herein as Project Information) necessary to perform the Work Authorized, which will include, but not be limited to, testing, observations, and monitoring. Client shall be responsible for furnishing to TTL any changes in said Project Information of which Client becomes aware or which are made by Client as the work progresses.

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3.1 Services performed by TTL under this agreement will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. No other warranty, expressed or implied is made or intended and the same are specifically disclaimed. Client shall not be entitled to assert a claim against TTL based on any theory of negligence or violation of the standard of care unless and until Client has obtained the written opinion from a licensed, independent and reputable engineering and/or environmental professional as appropriate for the services in question that TTL has violated the standard of care applicable to TTL's performance of those services under this agreement.

3.2 Field test and boring locations described in our report to Client or shown on our sketches are based on specific information furnished to us by Client. Client agrees that estimates made in the field by our technicians, All such dimensions, depths or elevations are approximations unless otherwise stated in our report.

3.3 Client recognizes that conditions may vary from those encountered at the location where borings, samplings, surveys, or explorations are made by our technicians and that the conditions may vary from those encountered at the location where borings, samplings, surveys, or explorations are made by our technicians and that the conditions may vary from those encountered at the location where borings, samplings, surveys, or explorations are made by our technicians. TTL and its agents, staff, and consultants shall not be responsible for the interpretation by others of the information, interpretations, and recommendations developed by TTL, but shall not be responsible for the interpretation by others of the information developed.

3.4 When requested by Client, TTL will adhere to Project Information which is provided to TTL by Client. However, Client agrees that TTL will not be liable for any such adverse outcome which results from TTL's adherence to that Project Information. It is agreed that TTL will not be liable for any such adverse outcome and Client will defend, hold harmless and indemnify TTL from and against all losses, costs, expenses and damages, including but not limited to attorneys' fees and court costs, which may be incurred by or on account of TTL's performance or non-performance in reliance upon the Project Information.

SECTION 4. RISK ALLOCATION

4.1 There are relative risks and benefits for TTL and Client arising from their agreement regarding the Work Authorized. TTL and Client have discussed these risks and benefits and have negotiated to allocate the risks as described in Section 4.2.

4.2 TTL agrees to perform the Work Authorized for the compensation agreed and Client agrees, to the fullest extent allowed by law, to limit the total aggregate liability of TTL and that of its officers, directors, employees, agents, assigns and subcontractors for any and all costs, losses, claims, expenses and damages of any nature whatsoever, which might be claimed and proven by Client or any third party relative to the Work Authorized, due to or on account of any claims and/or causes of action against TTL and/or any of its officers, directors, employees, agents or subcontractors, to \$500,000. Such claims and/or causes of action shall include, but not be limited to, claims for negligence, breach of contract, or other causes of action or legal theory, plead or asserted. TTL will consider providing higher limits at the Client's written request prior to accepting our proposal, provided Client pays additional consideration. The additional consideration for the higher liability limit is because of the greater risk assumed by TTL, Inc. and is not a charge for additional professional liability insurance. Client's signature indicates Client's acknowledgment of and agreement with the allocation of risks as set out in this Section 4.2.

4.3 Limitations on liability and indemnities in this agreement are business understandings between the parties and shall apply to all the different theories of recovery, including breach of contract or warranty, tort including negligence, strict or statutory liability, or any other cause of action, except for willful misconduct or gross negligence. Parties mean Client and TTL and their officers, employees, agents, affiliates and subcontractors. The parties also agree that Client will not seek damages in excess of the limitations indirectly through suits with other parties who may join TTL as a third party defendant.

4.4 Whether Client and TTL agree to proceed under Section 4.2 above, both agree, to the fullest extent allowed by law, that neither will be liable to the other, under any circumstances, for any special, indirect, consequential, or punitive damages whatsoever arising out of or related to this agreement.

NOTE: Sections 5 through 7 shall apply if sampling, testing or other intrusive services are part of TTL's scope of services.

SECTION 5. SUBTERRANEAN STRUCTURES AND UTILITIES

5.1 In the prosecution of the Work Authorized, TTL will take reasonable precautions to avoid damage or injury to subterranean structures or utilities.

5.2 Client will inform TTL of the locations of all subterranean structures and utilities on Client's property before the work authorized begins. Client agrees to hold TTL harmless for any damages to subterranean structures and utilities which are not brought to TTL's attention and not correctly shown in the Project Information furnished.

5.3 TTL will contact the local A-one-call utility authority, but assumes no responsibility with respect to utilities beyond that action.

SECTION 6. OWNERSHIP OF DOCUMENTS AND SAMPLES

6.1 All reports, borings logs, field data, test specimens, drilling samples, field notes, laboratory test data, calculations, estimates, and other documents prepared by TTL, as instruments of service, shall remain the property of TTL. These documents, specimens and samples will be considered confidential, and they will not be available to any other entity unless express consent is obtained in writing from Client.

6.2 TTL will render a Report (written or verbal, as particular circumstances dictate) to Client regarding the work performed.

6.3 Client agrees that any written Report and other work furnished to Client or Client's agents, for which full payment has not been made to TTL, will be returned to TTL upon demand and will not be used by Client for any purpose whatsoever or disseminated to any third parties by Client.

6.4 TTL will retain pertinent documents relating to the services performed for a period of five (5) years following submission of TTL's Report, during which period the documents will be made available to Client within a reasonable time after TTL receives a written request from Client. Specifically identifying the documents sought.

SECTION 7. DISPOSAL OF SAMPLES

7.1 Test specimens will be disposed of immediately upon completion of tests. Drilling samples will be disposed of thirty (30) days after submission of TTL's Report. Upon written request received before the disposal dates identified in this Section 7.1, TTL will retain test specimen and/or drilling samples for a mutually acceptable storage charge.

SECTION 8. DISCOVERY OF UNANTICIPATED HAZARDOUS MATERIALS

8.1 Client warrants that a reasonable effort to inform TTL of known or suspected hazardous materials on or near the project site has been made.

8.2 Hazardous materials may exist at a site where there is no reason to believe they could or should be present. TTL and Client agree that the discovery of unanticipated hazardous materials may require a change in the nature, timing, or location of the Work Authorized. Client agrees that the discovery of unanticipated hazardous materials may make it necessary for TTL to take immediate measures to protect health and safety. Client agrees to compensate TTL for any costs it may incur, such as, but not limited to, equipment decontamination costs or other costs incident to the discovery of unanticipated hazardous waste.

8.3 During the performance of the Work Authorized, TTL agrees to notify Client when unanticipated hazardous materials or suspected hazardous materials are encountered. Client agrees to make any disclosures required by law to the appropriate governing agencies. Client also agrees to hold TTL harmless for any and all consequences of disclosures made by TTL which are required by governing law. In the event the project site is not owned by Client, Client recognizes that it is the Client's responsibility to inform the property owner of the discovery of unanticipated hazardous materials or suspected hazardous materials.

8.4 Notwithstanding any other provision of the agreement, Client waives any claim against TTL, and to the maximum extent permitted by law, agrees to defend, indemnify, and hold TTL harmless from any claim, liability, and/or defense costs for injury or loss arising from TTL's discovery of unanticipated hazardous materials or suspected hazardous materials, including, but not limited to, any costs created by delay of the Work Authorized, delay of Client's project and/or cost associated with possible reduction of the property's value.

8.5 Client will be responsible for ultimate proper disposal of any samples secured by TTL which are found to be contaminated.

SECTION 9. BIOLOGICAL POLLUTANTS

9.1 Except to the degree specified in the accompanying proposal letter, work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, viruses, and/or any of their byproducts. TTL's Instruments of Service will not include any interpretations, recommendations, findings, or conclusions pertaining to Biological Pollutants. Client agrees that TTL has no liability for any claims alleging a failure to investigate, detect, prevent, assess, or make recommendations for preventing, controlling, or abating Biological Pollutants. Furthermore, Client agrees to defend, indemnify, and hold TTL harmless from all claims by any third party concerning Biological Pollutants, except any damages caused directly by TTL's sole negligence.

SECTION 10. INSURANCE

10.1 TTL represents and warrants that it and its agents, staff, and consultants employed by it are protected by worker's compensation insurance and that TTL has such coverage under public liability and property damage insurance policies as TTL deems to be adequate. Certificates for all such policies of insurance will be provided to Client. If Client so requests in writing, within the limits and conditions of such insurance, TTL agrees to indemnify and save Client harmless from and against all claims, damages, losses, costs, expenses and damages, including but not limited to attorneys' fees and court costs, which may be incurred by or on account of TTL's performance or non-performance in reliance upon the Project Information. It is agreed that TTL will not be responsible for any loss, damage, or liability beyond the amounts, limits, and conditions of such insurance. TTL shall not be responsible for any loss, damage, or liability arising from any acts by Client, its agents, staff, and other consultants employed by it.

SECTION 11. INVOICES

11.1 The Work Authorized will be accomplished in a timely, workmanlike, and professional manner by TTL at the unit fees quoted, or as otherwise agreed herein. If, during the execution of the Work Authorized, TTL is required to stop operations as a result of changes in the Work Authorized, such as requests by the Client or requirements of third parties, additional charges may be applicable.

11.2 As deemed appropriate by TTL, Client may be required to complete a credit application and/or obtain personal or corporate guarantees prior to the commencement of or during the performance of the Work Authorized.

11.3 TTL will submit to Client invoices on a monthly basis and a final bill upon completion of work. Invoices will show charges for different personnel and equipment classifications. A more detailed separation of charges and back-up data can be provided upon Client's specific prior written request.

11.4 Payment is due upon presentation of invoice and is past due thirty (30) days after the invoice date. If payment is not received by TTL within 30 days from the date of TTL's invoice, client agrees to pay the lesser of 1 - % per month or the maximum rate allowed by law, on the past due amount until the amount is paid in full, plus the hourly rate for the time of TTL's employees, reasonable attorney fees, and all other costs incurred by TTL in collecting the amounts due TTL under this agreement.

SECTION 12. TERMINATION

12.1 The agreement between TTL and Client may be terminated by either party upon seven (7) days written notice to the other in the event of substantial failure by the other party to perform in accordance with the terms hereof. Such termination shall not be effective if that substantial failure has been remedied before expiration of the period specified in the written notice. In the event of termination, TTL shall be paid for services performed to the termination notice date plus reasonable termination expenses.

13. DISPUTE RESOLUTION

13.1 In the unlikely event a dispute or claim or breach arises out of this Agreement, the parties will attempt to settle the dispute amongst each other. Failing that, the parties will agree to settle any such dispute, claim, or breach through Mediation, where a non-binding mediator is chosen by the American Arbitration Association (AAA). However, this mediation provision shall not apply to disputes regarding payment of TTL's fees where this may be a violation of state or applicable law. Notwithstanding anything above to the contrary, the parties agree that the mediation proceedings shall be held in Tuscaloosa, Alabama.

SECTION 14. ASSIGNS

14.1 Neither the Client nor TTL may delegate, assign, sublet or transfer their duties under or interest in this agreement without the prior written consent of the other party.

SECTION 15. SEVERABILITY

15.1 Any term or provision of this agreement found to be invalid under any applicable statute or rule of law shall be deemed null and void, the remainder of this agreement shall remain in full force and effect.

SECTION 16. GOVERNING LAW

16.1 Client and TTL agree that this agreement and any legal actions concerning its validity, interpretation and performance shall be governed by the laws of the State of Alabama.

SECTION 17. ENTIRE AGREEMENT

17.1 This agreement and its attachments constitute the entire agreement between TTL and Client. All understandings and agreements heretofore reached by and between TTL and Client are merged into this agreement, which alone fully and completely expresses their understandings. No representation or warranty made by any party which is not contained herein or expressly referred to herein has been relied on by any party entering into this agreement. Nothing under this agreement shall be construed to give any rights or benefits in this agreement to anyone other than the Client and TTL, and all duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of the Client (Owner) and TTL and not for the benefit of any other party.

DRUM003435

TTL

LIMS Chain of Custody Form

Client: **Starnes, Davis, Florie, LLP**
 Contact: **Lynn Sisk - TTL-Montgomery**
 Mailing Address:
 City, State, Zip:
 Phone No.:

Composite Sample Info

Sample _____
 Start _____
 End _____

Sample _____
 Start _____
 End _____
 Project ID: **Locust Fork-Dup-Blank**
 Project Name: **Locust Fork-Surface Water - Dup/Blank - 800216005**

Sample Security Requirements

1. Condition of Contents: _____
2. Sealed for Shipping By: _____
3. Initial Contents Temp.: _____ °C Seal Applied Yes No
4. Custody Seal Intact Upon Receipt by Laboratory: Yes No
5. Condition of Contents: Sealed - JCC
6. Comments: LI 17 1530
7. Reporting Status: Routine; _____; Rush By* _____
8. Client P.O. # _____

Date	Time	Sample ID/Description	Sample Type	Sample Method	Sample Containers	Analysis Parameters
2/16/17	0955	Duplicate 1	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	0955	Duplicate 1	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1303	Duplicate 2	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1303	Duplicate 2	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1405	Field Blank 1	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1405	Field Blank 1	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW

Relinquished by (signed) Date/Time

1 Lynn Sisk 2/16/17 1530

2 _____
 3 _____
 4 _____

Received by (signed) Date/Time

1 _____
 2 _____
 3 _____
 4 _____

Air Bill #:

Method of Shipment: TruckReceived By Lab: S. DavisDate/Time: 2-16-17 15:30

TTL, Inc. - Tuscaloosa Office/Laboratory: 3516 Greensboro Avenue, Tuscaloosa, Alabama 35401, Telephone (205) 345-0816, FAX (205) 345-0992

NOTE: Please read terms and conditions between TTL, Inc. and client on back of form.

DRUM003437



LIMS Chain of Custody Form

Client: **Starnes, Davis, Florie, LLP**
 Contact: **Lynn Bisk - TTL-Montgomery**

Mailing Address:

City, State, Zip:

Phone No.:

Sampled By:

Project ID: **Locust Fork-T1URB**Project Name: **Locust Fork - Surface Water - T1URB - 600216085**

Composite Sample Info

Sample

Start

End

Sample

Start

End

Sample Security Requirements

1. Condition of Contents:

2. Sealed for Shipping By:

3. Initial Contents Temp: _____ °C Seal Applied Yes ___ No ___

4. Custody Seal Intact Upon Receipt by Laboratory: Yes ___ No ___

5. Condition of Contents:

6. Comments:

7. Reporting Status: Routine; _____; Rush By _____

8. Client P.O. #

Date	Time	Sample ID/Description	Sample Type	Sample Method	Sample Containers	Analysis Parameters
2/16/17	1140	T1URB	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1140	T1URB	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1120	T1UMC-TOP	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1120	T1UMC-TOP	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1120	T1UMC-BOT	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1120	T1UMC-BOT	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1130	T1UMP-TOP	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1130	T1UMP-TOP	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW
2/16/17	1130	T1UMP-BOT	Aqueous	GRAB	1 1/2 PT PL HNO3	200.7PR, HARD_W, ICPMETALS_TOTAL
2/16/17	1130	T1UMP-BOT	Aqueous	GRAB	1 QT PLNP	300_W, ICPMETALS DISSOLVED, TDS_DW

Relinquished by: (signed) Date/Time

1. Lynn Bisk 2/16/17 1530

Received by (signed) Date/Time

1

2

3

4

Air Bill #:

Method of Shipment:

Received By Lab:

Date/Time:

SHIPPING DETAILS

2-16-17 15:30

TTL, Inc. - Tuscaloosa Office/Laboratory: 3516 Greensboro Avenue, Tuscaloosa, Alabama 35401, Telephone (205) 345-0816, FAX (205) 345-0892

NOTE: Please read terms and conditions between TTL, Inc. and client on back of form.

STATE OF ALABAMA
WATER IMPROVEMENT COMMISSION

Ira L. Myers, M.D.
Chairman, State Health Officer

Richard A. Forster
Vice Chairman
Commissioner, Department of
Conservation and Natural Resources

Perry Hill Office Park
3815 Interstate Court
Montgomery, Alabama

James W. Warr
Director

Commission Members:
Taney A. Brazel, Sr., Fairhope
Charles O. Cargile, Hueytown
Frank E. Lindstrom, Sr., Birmingham
David L. Thomas, Montgomery
Dr. John H. Winston, Jr., Montgomery

Mailing address:
State Office Building
Montgomery, AL 36130
Telephone 205/277-3630

March 31, 1980

4/2/80 Copies from MBE to:
Mr. Breland/Mr. Burdette
Mr. Brown
Mr. Gilbert
Mr. Walker
Mr. J. McDuff

Mr. Moyer Edwards
Alabama By-Products Corporation
P.O. Box 10246
Birmingham, Alabama 35202

RECEIVED

APR 2 1980

A. B. C.
ENV. CONTROL

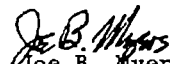
Dear Mr. Edwards:

Your company's operation, referred to in the attached NPDES Compliance Inspection Report, is considered as a major discharger of treated industrial waste to waters of the State of Alabama. Designation as a major discharger was jointly agreed to by the Environmental Protection Agency and this Commission.

The results of each inspection conducted by a member of the Alabama Water Improvement Commission Technical Staff will be reported on this form and a copy of this report will be forwarded to your company for information and action, as appropriate.

Should you have any questions concerning this matter, please feel free to contact us.

Yours very truly,


Joe B. Myers

Supervisor, Mining Activities
Water Improvement Commission

JBM:dst

Enclosure

DRUM003470

Form Approved
OMB No. 158-R0073

NPDES COMPLIANCE INSPECTION REPORT (Coding Instructions on back of last page)										
TRANSACTION CODE	NPDES	YR	MO	DA	TYPE	INSPECTOR	FAC TYPE	TIME		
1	2	3	4	5	6	7	8	9	10	11
1	5	14	0	9	1	7	2	4	18	19
1	5	14	0	9	1	7	2	4	18	19
REMARKS										
21										
64										
ADDITIONAL										
65										
70										
SECTION A - Permit Summary										
NAME AND ADDRESS OF FACILITY (Include County, State and ZIP code)								EXPIRATION DATE		
Alabama By-Products Corp. Maxine Mine Maxine, AL								80/12/31		
Jefferson Co.								ISSUANCE DATE		
								78/07/01		
RESPONSIBLE OFFICIAL						TITLE		PHONE		
Mayer, Edwards						Dir. Environmental Control		(205) 252-5171		
FACILITY REPRESENTATIVE						TITLE		PHONE		
James A. ...										
SECTION B - Effluent Characteristics (Additional sheets attached)										
N/A Records in B'HAM office										
PARAMETER/OUTFALL	MINIMUM	AVERAGE	MAXIMUM	ADDITIONAL						
SAMPLE MEASUREMENT										
PERMIT REQUIREMENT										
SAMPLE MEASUREMENT										
PERMIT REQUIREMENT										
SAMPLE MEASUREMENT										
PERMIT REQUIREMENT										
SAMPLE MEASUREMENT										
PERMIT REQUIREMENT										
SAMPLE MEASUREMENT										
PERMIT REQUIREMENT										
SAMPLE MEASUREMENT										
PERMIT REQUIREMENT										
SECTION C - Facility Evaluation (S = Satisfactory, U = Unsatisfactory, N/A = Not applicable)										
EFFLUENT WITHIN PERMIT REQUIREMENTS			OPERATION AND MAINTENANCE			SAMPLING PROCEDURES				
RECORDS AND REPORTS			COMPLIANCE SCHEDULE			LABORATORY PRACTICES				
PERMIT VERIFICATION			FLOW MEASUREMENTS			OTHER:				
SECTION D - Comments										
Lower Pond had been lined w/ Lime-rock & Lime was to be sprayed that day as a temporary measure										
SECTION E - Inspection/Review										
SIGNATURES			AGENCY			DATE			ENFORCEMENT DIVISION USE ONLY	
INSPECTED BY			AWIC			80/03/19			COMPLIANCE STATUS	
INSPECTED BY									<input type="checkbox"/> COMPLIANCE	
REVIEWED BY									<input type="checkbox"/> NONCOMPLIANCE	

DRUM003471

Form Approved
OMB No. 158-R0073

Sections F thru L: Complete on all inspections, as appropriate. N/A = Not Applicable		PERMIT NO. <u>AL0001724</u>
SECTION F - Facility and Permit Background		
ADDRESS OF PERMITTEE IF DIFFERENT FROM FACILITY (Including City, County and ZIP code) <u>Alabama By-Products Corp.</u> <u>P.O. Box 10246</u> <u>Birmingham, AL 35202</u>	DATE OF LAST PREVIOUS INVESTIGATION BY EPA/STATE <u>7/12/11</u> FINDINGS <u>Satisfactory</u>	
SECTION G - Records and Reports		
RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A (Further explanation attached _____)		
DETAILS:		
(a) ADEQUATE RECORDS MAINTAINED OF:		
(i) SAMPLING DATE, TIME, EXACT LOCATION	<input type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(ii) ANALYSES DATES, TIMES	<input type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(iii) INDIVIDUAL PERFORMING ANALYSIS	<input type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(iv) ANALYTICAL METHODS/TECHNIQUES USED	<input type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(v) ANALYTICAL RESULTS (e.g., consistent with self-monitoring report data)	<input type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(b) MONITORING RECORDS (e.g., flow, pH, DO, etc.) MAINTAINED FOR A MINIMUM OF THREE YEARS INCLUDING ALL ORIGINAL STRIP CHART RECORDINGS (e.g., continuous monitoring instrumentation calibration and maintenance records)		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(c) LAB EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS KEPT		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(d) FACILITY OPERATING RECORDS KEPT INCLUDING OPERATING LOGS FOR EACH TREATMENT UNIT		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(e) QUALITY ASSURANCE RECORDS KEPT		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(f) RECORDS MAINTAINED OF MAJOR CONTRIBUTING INDUSTRIES (and their compliance status) USING PUBLICLY OWNED TREATMENT WORKS		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
SECTION H - Permit Verification		
INSPECTION OBSERVATIONS VERIFY THE PERMIT: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A (Further explanation attached _____)		
DETAILS:		
(a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(b) FACILITY IS AS DESCRIBED IN PERMIT		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(c) PRINCIPAL PRODUCT(S) AND PRODUCTION RATES CONFORM WITH THOSE SET FORTH IN PERMIT APPLICATION		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(d) TREATMENT PROCESSES ARE AS DESCRIBED IN PERMIT APPLICATION		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(e) NOTIFICATION GIVEN TO EPA/STATE OF NEW, DIFFERENT OR INCREASED DISCHARGES		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(f) ACCURATE RECORDS OF RAW WATER VOLUME MAINTAINED		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(g) NUMBER AND LOCATION OF DISCHARGE POINTS ARE AS DESCRIBED IN PERMIT		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(h) CORRECT NAME AND LOCATION OF RECEIVING WATERS		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(i) ALL DISCHARGES ARE PERMITTED		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
SECTION I - Operation and Maintenance		
TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A (Further explanation attached _____)		
DETAILS:		
(a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROVIDED		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(b) ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(c) REPORTS ON ALTERNATE SOURCE OF POWER SENT TO EPA/STATE AS REQUIRED BY PERMIT		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(d) SLUDGES AND SOLIDS ADEQUATELY DISPOSED		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(e) ALL TREATMENT UNITS IN SERVICE		
<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(f) CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATION AND MAINTENANCE PROBLEMS		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(g) QUALIFIED OPERATING STAFF PROVIDED		
<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(h) ESTABLISHED PROCEDURES AVAILABLE FOR TRAINING NEW OPERATORS		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(i) FILES MAINTAINED ON SPARE PARTS INVENTORY, MAJOR EQUIPMENT SPECIFICATIONS, AND PARTS AND EQUIPMENT SUPPLIERS		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(j) INSTRUCTIONS FILES KEPT FOR OPERATION AND MAINTENANCE OF EACH ITEM OF MAJOR EQUIPMENT		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(k) OPERATION AND MAINTENANCE MANUAL MAINTAINED		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(l) SPCC PLAN AVAILABLE		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(m) REGULATORY AGENCY NOTIFIED OF BY-PASSING. (Dates _____)		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(n) ANY BY-PASSING SINCE LAST INSPECTION		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
(o) ANY HYDRAULIC AND/OR ORGANIC OVERLOADS EXPERIENCED		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A

EPA FORM 3560-3 (8-77)

PAGE 2 OF 4

DRUM003472

Form Approved
OMB No. 158-R0073

PERMIT NO. AL0001724	
SECTION J - Compliance Schedules	
PERMITTEE IS MEETING COMPLIANCE SCHEDULE. <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A (Further explanation attached _____)	
CHECK APPROPRIATE PHASE(S):	
<input type="checkbox"/> (a) THE PERMITTEE HAS OBTAINED THE NECESSARY APPROVALS FROM THE APPROPRIATE AUTHORITIES TO BEGIN CONSTRUCTION.	
<input type="checkbox"/> (b) PROPER ARRANGEMENT HAS BEEN MADE FOR FINANCING (mortgage commitments, grants, etc.).	
<input type="checkbox"/> (c) CONTRACTS FOR ENGINEERING SERVICES HAVE BEEN EXECUTED.	
<input type="checkbox"/> (d) DESIGN PLANS AND SPECIFICATIONS HAVE BEEN COMPLETED.	
<input type="checkbox"/> (e) CONSTRUCTION HAS COMMENCED.	
<input type="checkbox"/> (f) CONSTRUCTION AND/OR EQUIPMENT ACQUISITION IS ON SCHEDULE.	
<input type="checkbox"/> (g) CONSTRUCTION HAS BEEN COMPLETED.	
<input type="checkbox"/> (h) START-UP HAS COMMENCED.	
<input type="checkbox"/> (i) THE PERMITTEE HAS REQUESTED AN EXTENSION OF TIME.	
SECTION K - Self-Monitoring Program	
Part 1 - Flow Measurement (Further explanation attached _____)	
PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
DETAILS:	
(a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
TYPE OF DEVICE: <input type="checkbox"/> WEIR <input type="checkbox"/> PARSHALL FLUME <input type="checkbox"/> MAGMETER <input type="checkbox"/> VENTURI METER <input type="checkbox"/> OTHER (Specify _____)	
(b) CALIBRATION FREQUENCY ADEQUATE. (Date of last calibration _____) <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(c) PRIMARY FLOW MEASURING DEVICE PROPERLY OPERATED AND MAINTAINED. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(d) SECONDARY INSTRUMENTS (totalizers, recorders, etc.) PROPERLY OPERATED AND MAINTAINED. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
Part 2 - Sampling (Further explanation attached _____)	
PERMITTEE SAMPLING MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
DETAILS:	
(a) LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(c) PERMITTEE IS USING METHOD OF SAMPLE COLLECTION REQUIRED BY PERMIT. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
IF NO: <input type="checkbox"/> GRAB <input type="checkbox"/> MANUAL COMPOSITE <input type="checkbox"/> AUTOMATIC COMPOSITE FREQUENCY _____	
(d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(i) SAMPLES REFRIGERATED DURING COMPOSITING. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(ii) PROPER PRESERVATION TECHNIQUES USED. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(iii) FLOW PROPORTIONED SAMPLES OBTAINED WHERE REQUIRED BY PERMIT. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(iv) SAMPLE HOLDING TIMES PRIOR TO ANALYSES IN CONFORMANCE WITH 40 CFR 136.3 <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(e) MONITORING AND ANALYSES BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(f) IF (e) IS YES, RESULTS ARE REPORTED IN PERMITTEE'S SELF-MONITORING REPORT. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
Part 3 - Laboratory (Further explanation attached _____)	
PERMITTEE LABORATORY PROCEDURES MEET THE REQUIREMENTS AND INTENT OF THE PERMIT. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
DETAILS:	
(a) EPA APPROVED ANALYTICAL TESTING PROCEDURES USED. (40 CFR 136.3) <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(b) IF ALTERNATE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(c) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(d) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(e) QUALITY CONTROL PROCEDURES USED. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(f) DUPLICATE SAMPLES ARE ANALYZED. _____ % OF TIME. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(g) SPIKED SAMPLES ARE USED. _____ % OF TIME. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(h) COMMERCIAL LABORATORY USED. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
(i) COMMERCIAL LABORATORY STATE CERTIFIED. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
LAB NAME _____	
LAB ADDRESS _____	

DRUM003473

Form Approved
OMB No. 158-R0073

PERMIT NO.

HL0001724

SECTION L: Effluent/Receiving Water Observations (Further explanation attached)

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOL	COLOR	OTHER

(Sections M and N: Complete as appropriate for sampling inspections)

SECTION M: Sampling Inspection Procedures and Observations (Further explanation attached)

- ☐ GRAB SAMPLES OBTAINED
☐ COMPOSITE OBTAINED
☐ FLOW PROPORTIONED SAMPLE
☐ AUTOMATIC SAMPLER USED
☐ SAMPLE SPLIT WITH PERMITTEE
☐ CHAIN OF CUSTODY EMPLOYED

☐ SAMPLE OBTAINED FROM FACILITY SAMPLING DEVICE

COMPOSITING FREQUENCY

PRESERVATION

SAMPLE REFRIGERATED DURING COMPOSITING: ☐ YES ☒ NO

SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE

SECTION N: Analytical Results (Attach report if necessary)

DRUM003474

December 5, 1978

*Chetapa
Ward
J. B.
M. L. #1
M. L. #2
M. L. #3
M. L. #4
M. L. #5
M. L. #6
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M. L. #98
M. L. #99
M. L. #100*

MEMO TO FILE:

RE: MEETING REGARDING RUNOFF PROBLEMS AT COAL MINES

ATTENDEES: MESSRS. BRELAND, BURDETTE, COOK, MUSICK, J. McDUFF
and EDWARDS

Problems were pointed out in regards to OSM inspections, etc. Mr. Cook then stated that he wanted Jack McDuff to work with the superintendents in regards to the problems and wanted someone also at the mines who could be familiar with these problems to work with the inspectors when they came. Mr. Breland stated he envisioned this as being a twofold program - permanent type and a temporary type. He stated he had previously discussed this with Mr. Burdette and it will be Jack's job of doing it and it must be coordinated with the superintendents. He is in turn thinking of ways that berms, dams, etc. have to be built. At this point Mr. Burdette asked if we knew what is required at all of our installations and why. Jack stated it was the law, that we had to do this and that normally the Blue Book has a check list of things you are supposed to do. Mr. Burdette stated that it was not in the design plans of OSM for structures at present. He would think that Jack and the Division Superintendents and Superintendents would establish drainage patterns at all mines. Mr. Cook then noted that there were different criteria for different agencies. Mr. Breland stated we now must establish drainage pattern initially with plans for relief later on. Much emphasis was placed on formulating an overall plan. He stated that Jack would not be able to perform all of this, he has to use local engineers to make some of the drawings after determining what is needed. Mr. Burdette stated he would have the Superintendent, Engineer and Jack to be familiar with problems in order that they may attempt to guide the persons from OSM around the mines. Mr. Breland then stated he thinks we ought to meet with Mr. Ellis in regards to our problems and discuss them with him. Mr. Burdette noted that the OSM people come onto your area without stopping, that they came into the Knob Mine without stopping and just about ran up on a shot prior to shooting. Someone happened to see them and delayed the shot.

Mr. Breland then stated these men are under pressures to do a job and what we have to do is cooperate with them any way we can. At this point Mr. McDuff asked who should be the one to see Mr. Ellis. Mr. Breland indicated that there would be no one person, perhaps everybody in the room should go see him. At this point Mr. McDuff stated he had to meet a Mr. Dikes out at Mary Lee No. 2 at noon in regards to some of the problems which are supposed to have been corrected. Mr. Breland also questioned how long it would take before we had something on paper in regards to our drainage plan; Jack stated it would be approximately 3 weeks. Mr. Cook stated he didn't want to put the monkey on his back, just needed enough time and I stated at this point we had to have this plan regardless of whether we want the monkey on our back or not. Mr. Breland then stated we should get the plan ready prior to reviewing with the mines. Mr.

DRUM003477

- 2 -

Burdette stated our first inspection could be preliminary investigation, we could then make our plans and thinks we would be better off to know what needs to be done before putting all of this on paper. Mr. Cook stated he could almost look at a contour map and tell what needs to be done, to which Mr. Breland replied that the contours around some of the areas are not the same as they used to be, that they have been changed quite drastically. Mr. Breland also requested that the cost and performing the work that is being recommended should be noted as well.

The Division Superintendent, the Mine Superintendent, Mine Engineer Jack McDuff and myself will be a Task Force to review the areas in question for corrective action.

As I see the above meeting, I see a replay of a similar meeting held at the Segco Mine with the AWIC Technical Staff in regards to runoff water - all mines concerned, the corrective action which was going to be taken at that time, some of which were carried through and no longer presents a problem, but some were taken part-way and dropped, some were taken all the way, however, and have deteriorated to a point where we no longer have control we once had.

MOYER B. EDWARDS

MBE:rl

DRUM003478

bc: Mr. Koenig Mr. McAlpin
 Mr. Jones Mr. Brown
 Mr. R. W. Self Mr. Stuckey
 Mr. Lewis Mr. Stockman
 Mr. W. E. Self Mr. Gilbert
 Mr. Breland
 Mr. Cook/Mr. Musick

*Gorgas
Segco,
may be ✓*

April 30, 1977

Mr. Buddy E. Cox, Jr.
Pollution Control Specialist
Alabama Water Improvement Commission
Perry Hill Office Park
3815 Interstate Court
Montgomery, Alabama 36109

Dear Mr. Cox:

As requested during our meeting on April 19, 1977 at our Segco Mine, we are submitting plans as outlined to you at that time and our estimated completion dates for the corrective action discussed.

GORGAS MINE - (Attachment "A")

Problem: Excess water being routed from the preparation plant to the emergency holding ponds which necessitated an excavation of two additional ponds for containment. The cause - insufficient pumping capacity as well as pumps not in operating condition.

Solution: A new wastewater pipeline has been installed from the preparation plant to the holding pond and a standby wastewater pump will be installed at the washer sump. This standby pump will be float activated at a predetermined level which will prevent overflow from the sump to the emergency ponds. Completion date estimated to be May 15, 1977.

Problem: Excess material in the emergency ponds.

Solution: Clean ponds and keep in such condition that will insure adequate residence time for material deposition. Completion date estimated to be August 1, 1977.

Note: The second pond which was excavated to accommodate run over from the existing emergency ponds has now been drained and is in good condition.

One additional emergency pond will be connected to the existing ponds in order that draining and cleaning out of all ponds can be accommodated.

DRUM003480

Mr. Cox

- 2 -

April 30, 1977

Estimated completion date August 1, 1977.

Automatic air valves have been installed at the head tanks to control the incoming water to the preparation plant. Work is now being performed on air lines and automatic float switches to operate these valves. Completion date estimated May 1, 1977.

Existing pump for recycling water from the wastewater ponds is now being evaluated to determine if present capacity is sufficient to serve the preparation plant, if not a larger pump must be ordered.

One section of the fine coal recovery unit has been put on stream as of April 11, 1977 with the second unit estimated to be on stream by June 1, 1977.

SEGOO MINE - (Attachment "B")

Problem: Excess material washing from the material storage yard into the small holding pond below the railroad thus necessitating frequent clean out.

Solution: The sump which was used to trap material from this area prior to the water flowing to the holding pond has now been enlarged to a volume of approximately 53,200 cubic feet.

Problem: Rapid fill up of the material yard holding pond necessitated frequent clean outs or loss of the material to the stream.

Solution: This pond is now being cleaned and a solids pump is to be installed for pumping material back to the preparation plant sump and from there to be pumped to the large holding ponds. A raw water line will be added to this pond for slurry purposes. The raw water line will be a 2 inch line, water pumped from this pond will be by a 4 inch line. At no time will the raw incoming water be in excess of the water being pumped from the pond. Pond cleaning estimated to be completed by May 15, 1977.

Money has been budgeted for the second (pumping) phase of the project. Estimated completion date dependent upon pump delivery.

MAXINE MINE - (Attachment "C")

Problem: The holding pond located at the No. 1 belt transfer house fills rapidly due to overflow from the washer and drainage from other areas. Overflow from this pond is trapped in a semi-diked area which in turn has become full.

Solution: A mud-cat has been contracted to dredge the small holding pond and although it should have been on location April 22, 1977, the estimated arrival date now will be May 3, 1977.

DRUM003481

Mr. Cox

- 3 -

April 30, 1977

The area below the small pond has now been excavated to provide an emergency catch basin in the event of a malfunction in the small pond.

A slurry pump will be purchased and installed to pump material from this holding pond back to the preparation plant and then to be pumped to the holding pond. As in the Segco Mine there will be incoming raw water to provide a slurry for pumping of this material but at no time will the incoming material exceed the pumping capacity of this pump.

Problem: Water being discharged from the preparation plant to the small holding pond.

Solution: Due to the absence of a standby pump or this pump being inoperable at times water flows to the small holding pond. The purchase of a larger waste water pump will be made in order to handle the additional water to the plant, the existing pump will then be used as a standby.

Problem: Low pH in the Maxine Hollow stream.

Solution: Purchase and installation of a treatment system for neutralizing these waters by the addition of sodium hydroxide. This system consist of a weir constructed of PVC material, a float control device is built into the weir which controls the caustic feed rate depending upon the volume of water flowing through this weir. Daily monitoring will be carried out by mine personnel as well as the vendor. Estimated completion date May 15, 1977.

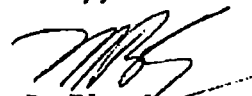
At this submittal I have not received drawings for this system from the vendor, these will be forwarded to you as soon as received.

Problem: Possible runoff from material from the raw coal storage pile.

Solution: A berm has been constructed around the perimeter of this coal storage area which excludes outside waters from flowing into the pile. Any runoff from this area will be diverted by berm and channeling to the existing sump area at the belt switch station, from the belt switch station it will be pumped back to the preparation plant for disposal in the black water pond. Estimated completion date will be May 15, 1977.

Note: We have been informed by the vendor of Goyne pumps that the pumps required for both the Segco and Maxine Mines will have an estimated delivery time of 9 - 12 months. We will in the meantime keep all ponds in such condition as to minimize possible spillage of material to streams.

Yours truly,



Moyer B. Edwards
Director Environmental Control

MBE:rl
Attachments

DRUM003482

"A"

GORGAS MINE

EMERGENCY POND SIZES -

FIRST POND - 30,000 SQ. FT. - AVG. DEPTH 8'

VOLUME - 240,000 CU. FT.

SECOND POND - 47,200 SQ. FT. - AVG. DEPTH 8'

VOLUME - 377,600 CU. FT.

TOTAL VOLUME - 617,600 CU. FT.

PUMP CAPACITIES - TWO GOYNE PUMPS - 1000 GPM
(WASTE WATER PUMPS)

LINE SIZES - TWO 8" LINES. ONE PRESENTLY IN
USE AND ONE BEING INSTALLED.

4/18/57

Mtg to PWIC Personnel

Mayer Edwards

ABC

Charles Horn

AWIC

JOE MYERS

AWIC

Buddy Cox

AWIC

LEONARD WISNIV

ABC

M.E. McALPIN

ABC

Sgt Gilbert

ABC

Celia Stachura

ABC, #7 spinner

J.E. BRELAND

ABC

T.E. Musick

ABC

RALPH STUCKEY

ABC SEGCO

bc: Mr. Koenig	Mr. Brown
Mr. Jones	Mr. McAlpin
Mr. R. W. Self	Mr. Gilbert
Mr. Lewis	Mr. Burdette
Mr. W. E. Self	Mr. Stockman
Mr. Breland	Mr. Stuckey
Mr. Cook	Mr. Bradford
Mr. Musick	

March 1, 1976

Mr. James W. Warr, Chief Administrative Officer
Alabama Water Improvement Commission
Perry Hill Office Park
3815 Interstate Court
Montgomery, Alabama 36109

Dear Mr. Warr:

We are in receipt of your letter of February 11, 1976 in which you noted an inspection of our Maxine, Mary Lee No. 1, Gorgas America No. 7 and Segco No. 1 Mines by Messrs. Robert Smith and Joe Meyers of your Technical Staff. In reply to the discrepancies detected by the AWIC of the inspection made on February 4, 1976, we would note the following actions which have been taken by ABC in order to correct the noted discrepancies.

MAXINE MINE

1. Evidence of considerable siltation to the Locust Fork from the western portion of the waste rock pile.
2. Erosion of the waste rock piles outface on the river side.

Plan of Action - We are submitting the attached plan of action to your staff for approval which includes corrective action for Items No. 1 and No. 2 above.

3. Numerous cases of discharge from the coal storage pile to the river at the barge loading site.

Action - The belt from which some of the leaks as noted in Item No. 3 were originating has now been repaired and this source no longer exist. The second item referred to in No. 3 would be a small pond from which drainage from our wet coal pile flows onto an area between the river and our storage area. We have entrapped this water by erecting a clay berm around the periphery of our loading facility, however, since this is clay, percolation is very poor and therefore drainage

DRUM003517

Mr. Warr

- 2 -

March 1, 1976

during wet weather will have to be considered. At this writing we are entertaining two possible approaches - (a) installing essentially a french drain within the confines of the area encircled by the dirt berm. (b) If all else fails, install a sump and pump this water back to the drainage course which leads away from the river to an existing drainage basin.

4. Basin for treatment of surface run-off from plant area and area beneath the conveyor to barge loading facility was in a state of disrepair. Floating waste was discharging from the basin to an area that drains to the river. The basin had no means for normal pool drainage as opposed to emergency overflow.

Action - This sump was installed to catch drainage from the belt area and from the plant area. However, we have a very close elevation tolerance on waters coming into this small sump and waters leaving this sump. We have installed a pipe which insures sub-surface drainage from this pond thus eliminating the possibility of float dust. In regard to emergency overflow as stated above, due to the very close tolerance and elevations, this may not be possible for this particular sump.

MARY LEE NO. 1 MINE

1. New facilities for treatment of washer waste, approved by AWIC as a closed system, was discharging to Lost Creek. Effluent was significantly discolored.

Action - The recirculating system has been activated and as of Friday, February 20, 1976, there was no outfall at this holding pond, however, due to a solids buildup the pump intake had to be relocated, this should be back in operation by February 27, 1976. At that time there will be no outfall.

2. Basin for treatment of surface run-off from plant area approved by AWIC as a closed system, was discharging to Lost Creek. The first basin was full of settled waste.

Action - This is one of two emergency holding ponds located below the Preparation Plant and a contractor has been contacted in regards to cleaning this pond. In addition, a tightening up of all drainage which contributed to the influent to these ponds is underway. If drainage from this pond continues after the above action an application for waste water discharge will be submitted to the AWIC.

DRUM003518

Mr. Warr

- 3 -

March 1, 1976

GORGAS AMERICA NO. 7 MINE

1. Surface run-off from the coal storage pile was discharging in two places to Lost Creek.

Action - This area is being studied in order to arrive at a feasible method of containment and disposal of accumulated waters.

2. Coal fines were spilling from the conveyor belt into Lost Creek. Spillage of the fines had formed a pile beneath the conveyor directly on and in Lost Creek. The pile was approximately 20 feet high.

Action - This accumulation was due to faulty belt cleaning. The belt cleaners located in this vicinity were to be adjusted or replaced immediately. The coal referred to in Item 2 has been removed.

SEGO NO. 1 MINE

1. New facilities approved by the AWIC for treatment of washer waste was in dis-use with little evidence that they had been used since their construction over one year ago.

Action - The reason this facility has experienced limited use has been (1) due to leakage in the pipe leading to the ponds which has now been corrected and (2) at this time there is no return line from the second pond to the Preparation Plant. However, piping has been placed on order and when received and installed this facility will be activated.

2. Basin for treatment of surface run-off from plant area had been discharging washer waste to a tributary of Lost Creek. Capacity of the basin appeared to be inadequate and there were no means for normal pool drainage as opposed to emergency overflow. There was no provision for sub-surface extraction from the basin.

Action - This basin is indeed small for the area which it serves. As you know, this was an item that ABC inherited when we began to operate this mine. Since this inspection was made this basin has been cleaned completely and enlarged somewhat to provide a longer retention time for materials flowing into it. In addition, provisions are being made for the installation of sub-surface drainage and retaining the existing spillway as an emergency overflow. In order to reduce waters going to the yard drain we are routing as much drainage water and wash water as possible to the sump which

DRUM003519

Mr. Warr

- 4 -

March 1, 1976

in turn is discharged via the plant washer discharge route.

3. Leakage from the washer and the hopper for rail loading was discharging to a tributary of Lost Creek without treatment.

Action - Drainage from the hopper is now routed back to the Preparation Plant discharge which in turn is pumped to the holding pond. We anticipate a complete stoppage of waters draining via the route observed by your staff. Instead said waters will be routed to holding areas where ample retention time will allow adequate settling of any suspended matter.

We hope this assessment of our immediate action, as well as our proposed action, will meet with your approval and we hasten to assure you that we at ABC desire to comply with the pollution control laws of the State of Alabama. If there are any questions in regard to the above items, please do not hesitate to call me.

Sincerely,

Moyer B. Edwards
Director Environmental Control

MBE:rl
Attachment

DRUM003520

PROPOSED PLAN TO CORRECT THE SILTATION
PROBLEM ASSOCIATED WITH THE MAXINE MINE
REFUSE STORAGE AREA

Discussions related to the overall drainage and siltation from the refuse dump at Maxine Mine have lead to the following proposed plan.

A small dam approximately 20 feet high would be constructed in the main hollow south of the mine refuse area "A". This dam would not be designed to impound water but for containing the silt which would wash from the refuse area until the final stages were completed. The area east of this dam, which is now filled with silt washed from the refuse area, would be dredged and cleaned for a distance of approximately 1,000 feet. This material would be placed on the upstream of the north side of the dam.

A possible plan for the river side of this refuse area is to fill in the existing washed areas with clay, moderate the existing refuse slope from the tree line up to the road bed. A cover of clay will then be put down with subsequent seeding with grass and/or trees.

A ditch line of approximately 10 to 12 feet wide and approximately 3 feet deep located on the west side of the refuse pile would commence at the present access road which crosses the refuse pile and runs for a distance of approximately 5,800 feet meandering with the contours along the west side of the hollow below the refuse pile and ending in a hollow south of the proposed dam. This ditch would collect all drainage from the terrain west of the refuse area and carry it to a point south of our proposed dam. This water would not touch our refuse pile and should therefore be pollution free.

The large hollow to the southwest of the present refuse dump would be used for future mine refuse dumping. The refuse would be deposited from the bottom of the hollow and layered according to the law to approximately the proposed toe of refuse as shown on the attached sketch. The future refuse would be deposited on a slope from the top of the existing pile to the proposed toe and would measure approximately 27 degrees. This hollow would comprise three and one-quarter million cubic yards of dumping space. As the slopes for this area are completed, the top of the refuse pile would be covered with clay and seeded with grass and/or trees. Clay for this project is a scarce item and it may be necessary that some land south and west of the project would have to be acquired in order to obtain the necessary amount of clay. After removal of the clay, those areas too would be seeded with grass and/or trees.

We have already contacted an excavating company in order that we may be in a position to move forward on this project as soon as it meets with your approval.

ALABAMA BY-PRODUCTS CORPORATION

By: 

Douglas H. Cook

Vice President Engineering-Mines

DRUM003521



DRUM003522

*M.L. #1
Gorgas
Segco*

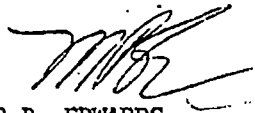
February 19, 1976

MESSRS.	KOENIG	BROWN
	JONES	McALPIN
	R. W. SELF	GILBERT
	LEWIS	BURDETTE
	W. E. SELF	STOCKMAN
	BRELAND	STUCKEY
	COOK	BRADFORD
	MUSICK	

GENTLEMEN:

The attached letter was received from AWIC this morning (February 19, 1976). It notes items which were observed by the AWIC Technical personnel, to be in non-compliance when we made an inspection on February 4, 1976 for those mines listed. As noted in my earlier memo, a representative of each mine was present during this inspection and in addition, all mine superintendents have been notified of each item on the attached list.

We have begun a series of meetings with both Operations and Engineering to discuss and correct the problems as listed. The Segco problem was discussed on Monday, February 16, and is in the process of being corrected. The Mary Lee No. 1, Gorgas and Maxine problems are to be discussed on Friday, February 20, after which I will have to submit a report to the State in regard to the items on this list.


MOYER B. EDWARDS

MBE:rl
Attachment

DRUM003524

STATE OF ALABAMA

WATER IMPROVEMENT COMMISSION

Ira L. Myers, M. D.
Chairman
State Health Officer

Claude D. Kelley
Vice Chairman
Commissioner, Department of
Conservation and Natural Resources
Perry Hill Office Park
3815 Interstate Court



James W. Warr
Chief Administrative Officer
Montgomery, Alabama 36109

Commission Members:
Marvin O. Berglin, Fairhope
Dr. Robert M. Bucher, Mobile
Charles O. Cargile, Hueytown
Louis Grabenstader, Huntsville
Henry A. Leslie, Montgomery

Telephone 205/277-3630

February 11, 1976

Mr. Moyer Edwards
Alabama By-Products Corporation
First National Bank Building
Birmingham, AL 35203

Dear Mr. Edwards:

This is to confirm an inspection on February 4, 1976, by Mr. Robert Smith and Mr. Joe Myers of your company's coal preparation facilities at the Maxine Mine, Mary Lee No. 1, America No. 7, and SEGCO No. 1.

The performance of the water pollution abatement and/or prevention facilities at all locations was unsatisfactory and in violation of Alabama's pollution control law, Act 1260, and AWIC permit conditions. Immediate action should be taken to correct the deficiencies listed on the attached list.

Should you have any questions concerning these matters, please contact Mr. Smith or Mr. Myers of this office.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "James W. Warr".

James W. Warr
Chief Administrative Officer
Water Improvement Commission

JWW:mcc

Attachment

cc: Mr. Self
Mr. Doug Cook

DRUM003525

DISCREPANCIES DETECTED BY AWIC

INSPECTION OF FEBRUARY 4, 1976

Maxine Mine:

1. Evidence of considerable siltation to the Locust Fork from the western portion of the waste rock pile.
2. Erosion of the waste rock pile's outer face on the riverside.
- 2 3. Numerous cases of discharge from the coal storage pile to the river at the barge loading site.
4. Basin for treatment of surface run-off from plant area and area beneath conveyor to barge loading facility was in a state of disrepair. Floating waste was discharging from the basin to an area that drains to the river. The basin had no means for normal pool drainage as opposed to emergency overflow.

Mary Lee No. 1:

1. New facilities for treatment of washer waste, approved by AWIC as a closed system, was discharging to Lost Creek. Effluent was significantly discolored.
2. Basin for treatment of surface run-off from plant area, approved by AWIC as a closed system, was discharging to Lost Creek. The first basin was full of settled waste.

America No. 7:

1. Surface run-off from the coal storage pile was discharging in two places to Lost Creek.
2. Coal fines were spilling from the conveyor belt into Lost Creek. Spillage of the fines had formed a pile beneath the conveyor directly on and in Lost Creek. The pile was approximately 20 feet high.

SEGC0 No. 1:

1. New facilities approved by AWIC for treatment of washer waste was in disuse with little evidence that they had been used since their construction over one year ago.
2. Basin for treatment of surface run-off from plant area had been discharging washer waste to a tributary of Lost Creek. Capacity of the basin appeared to be inadequate and there were no means for normal pool drainage as opposed to emergency overflow. There was no provision for sub-surface extraction from the basin.
3. Leakage from the washer and the hopper for rail loading was discharging to a tributary of Lost Creek without treatment.

DRUM003526

cc: Mr. Koenig Mr. Breland
 Mr. Jones Mr. Cook
 Mr. R. W. Self Mr. Musick
 Mr. Lewis Mr. Bradford
 Mr. W. E. Self

September 15, 1975

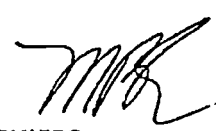
MESSRS. McALPIN
 BROWN
 STUCKEY
 BURDETTE
 BRYANT
 GILBERT

GENTLEMEN:

On Tuesday, September 23, 1975, I have an appointment to meet with Mr. Joe Meyers of the AWIC Technical Staff to discuss any pollution problems which the Alabama By-Products Corporation may have relative to mining operations. We intend to meet at Segco Mine No. 1 Tuesday morning; from there we plan to visit Mary Lee Mine No. 1 and Mary Lee Mine No. 2. In the afternoon, our tentative plans call for an inspection of the Maxine Mine area. I would request that you have either yourself or your engineer most familiar with your mine water outfall and pollution problems at that particular mine available when we make our visit.

As stated, we plan to visit Segco Mine No. 1, Mary Lee Mine No. 1 and Mary Lee Mine No. 2 on the morning of Tuesday, September 23, commencing at 9:30 a.m. and that afternoon we plan to visit the Maxine Mine area.

Your cooperation in having someone available when we are at your mine will be appreciated.


MOYER B. EDWARDS

MBE:rl

DRUM003527

Copy 2/22/75 from Maxine Mine

Mr. Koanig	Mr. Cook/Mr. Musick
Mr. Jones	Mr. Edwards
Mr. R. W. Self	Mr. Baker
Mr. Lewis	
Mr. Breland	

January 16, 1975

TO: MR. W. E. SELF

FROM: DON KEITH

SUBJECT: PROPOSED PLAN AND APPROXIMATE COSTS RELATED TO ACID MINE
DRAINAGE AND REFUSE STORAGE AT MAXINE MINE

MINE REFUSE AREA "A"

Discussions on the activities related to acid mine drainage and refuse dump at Maxine Mine have led to the following proposed plan. A small dam, approximately 20 feet high, would be constructed in the main hollow south of the mine refuse Area "A". This dam would not be designed to impound water but for containing the silt which would wash from the refuse area until the final stages are completed. The area east of this dam, which is now filled with silt washed from the refuse area, would be dredged and cleaned for a distance of approximately 1,000 feet. This material would be placed on the upstream or north side of the dam.

A ditchline, approximately 10 to 12 feet wide and approximately 6 feet deep with a berm on the east side of the ditch, would be constructed on the east or river side of the refuse area. This ditch would commence in the rock bin area and run along the toe of the refuse pile for a distance of approximately 4,000 feet ending in a small hollow at the south end of the refuse pile. This ditchline would collect the drainage from the east or river side slopes of the refuse pile and carry it to the upstream or north side of the proposed dam.

A second ditchline, of approximately the same dimensions, located on the west side of the refuse pile would commence at the present access road, which crosses the refuse pile, and run for a distance of approximately 5,800 feet meandering with the contours along the west side of the hollow below the refuse pile and ending in a hollow south of the proposed dam. This ditch would collect all drainage from the terrain west of the refuse area and carry it to a point south of our proposed dam. This water would not touch our refuse pile and should therefore be pollution free.

The slopes on the east side of the refuse area would be approached in one of the two following ways. One method would be to contour and dress the slopes as they are now, approximately 35° slope, terracing and carrying the drainage along the terraces and depositing it north of the proposed dam. The slopes would then be covered with clay and seeded with grass and/or trees.

The second method proposed would be to cut the peaks of the existing terraces making one slope which would reduce the slopes to comply with the proposed 27 degrees. The slopes would be covered with clay and seeded with grass and/or trees.

The large hollow to the southwest of the present refuse dump would be used for future mine refuse dumping. The refuse would be deposited from the bottom of the hollow and layered according to the law to approximately the proposed toe of refuse

DRUM003531

-2-

as shown on the attached sketch. The future refuse would be deposited on a slope from the top of the existing pile to the proposed toe and would measure approximately 12 to 15 degrees. This hollow would comprise 3½ million cubic yards of dumping space and allow future dumping at the present rate for 16 years. As the slopes for this area were completed, the top of the refuse pile would be covered with clay and seeded with grass and/or trees.

Clay for this project could be a scarce item. It is possible that some land south and west of the project would have to be acquired in order to obtain the required amounts of clay. After removal of the clay, these areas too would be seeded with grass and/or trees.

Mr. Clyde Meade of Henderson Excavating Company has walked over the project and along with Dave Henderson has estimated the following timetable and costs. These costs are approximate as there are several unknowns such as the amount of clay material in which to cut the ditch on the south side of the pile, the amount of rock which will be encountered and the amount of refuse which will have to be moved to contour the slopes.

**ESTIMATE OF TIME AND COSTS
REFUSE AREA "A"**

<u>Item</u>	<u>Time</u>	<u>Amount</u>
1. Construction of proposed dam to collect washings from refuse Area "A"	35 days	\$ 60,000.00
2. Cut proposed ditchline on east or river side of refuse Area "A"	10 days	5,000.00
3. Cut proposed ditchline on west side of refuse Area "A"	10 days	5,000.00
4. Contour, dress and clay the slopes on the east or river side of refuse Area "A"	35 days	60,000.00
5. Clearing designated area to obtain clay for surfacing	15 days	10,000.00
6. Dredging with dragline area below proposed dam which is now filled with material washed from refuse Area "A"	35 days	35,000.00
Grand Total		\$175,000.00

Another item which possibly may arise would be the treatment of the drainage coming from the refuse pile until the area has been covered with clay. This item, depending on the quality of the water, could possibly require a small treatment plant and an additional small dam to impound the water. This problem would have to be worked out after determining the quality of the drainage water.

DRUM003532

-3-

This report covers only Area "A" of the refuse area. Areas "B" and "C" will be explored after study is completed on Area "A" which is the largest and most troublesome area.

DK/ah
Attach.

DRUM003533



DRUM003534

bcc: Mr. Jones
Mr. R. W. Self
Mr. Lewis
Mr. Breland/Burdette
Mr. Musick
Mr. J. McDuff
Mr. F. McDuff
Mr. Darden
Mr. Edwards ✓

April 27, 1979

Mr. Philip E. La Moreaux, President
P.E. La Moreaux and Associates
P. O. Box 2310
Tuscaloosa, Alabama 34501

Subject: Hydrologic Studies
Alabama By-Products Corporation's Deep Mines

Dear Mr. La Moreaux:

Attached hereto is a map showing the location and area dedicated to the deep mines operated by Alabama By-Products Corporation.

You will note that the area dedicated to Segco No. 1 and Mary Lee No. 1 Mines overlap the Gorgas No. 7 Mine area. This is because the Gorgas Mine is in the America Seam and the other two (2) mines are in the Mary Lee Seam. Mary Lee No. 2 and Chetopa Mines are in the Mary Lee Seam. Maxine Mine is in the America Seam with a small area now being developed in the Pratt Seam.

At most of the mine areas shown there are abandoned adjoining deep mines, abandoned deep mines in a seam above the seam being mined and active and/or abandoned surface mines above the seam being mined. Most of the maps of the abandoned mines are on file in this office.

This information is furnished per our recent conversation so you will be familiar with our areas of operation prior to our meeting to discuss the hydrologic investigations required by the Permanent Regulatory Program of O.S.M.

If you require additional information, please feel free to call at anytime.

Yours very truly,



D. R. Cook
Vice President Engineering-Mines

DRC/ba
Att:

DRUM003553

P.E. LaMoreaux & Associates

Consulting Hydrologists, Geologists & Environmental Scientists

December 13, 1982

Mr. Douglas R. Cook
 Vice President, Engineering-Mines
 Alabama By-Products Corporation
 P.O. Box 218
 Goodsprings, Alabama 35560

Dear Mr. Cook:

As per our telephone conversation on Friday, December 10, 1982, below is given a summary of analyses completed on refuse rock samples:

	pH	% Pyritic Sulfur as S	Neutralization Potential Tons CaCO_3 Equivalent/ Thousand Tons of Material
Maxine	5.8	0.93	2.3
Segco No. 1	NA ¹	0.04	22.7
Gorgas No. 7/ Mary Lee No. 1	NA	0.27	23.0
Mary Lee No. 2	NA	0.31	25.5
Chetopa	NA	0.65	24.5

NA¹ = not analyzed.

Home Office: P.O. Box 2310 Tuscaloosa, Alabama 35403 Telephone 205/752-5543 Cable (PELA)

Offices: 4313 South Florida Avenue Lakeland, Florida 33803 Telephone 813/646-8526
 1440 Bank For Savings Building Birmingham, Alabama 35203 Telephone 205/251-5283

DRUM003554

Mr. Douglas R. Cook
December 13, 1982
Page Two

In addition, analyses of breaker rock refuse for the Maxine Mine were completed as requested by ASMC. The results are as follows:

	Breaker Rock ¹
pH	7.3
Neutralization Potential, Tons CaCO ₃ Equivalent/ Thousand Tons of Material	1.1
% Pyritic Sulfur as S	0.55
Iron, ppm as Fe	1682.0
Manganese, ppm as Mn	31.8

Breaker Rock¹ = composite of 6 samples collected.

If I can be of further assistance, please advise.

Sincerely,



Lois D. George
Project Manager

LDG/b6

DRUM003555

Copy sent 7-29-83 to:

Mr. Sheriff/Mr. Burdette
Mr. Cook
Mr. Bryant
Mr. Gilbert
✓ Mr. Edwards
Mr. F. McDuff
Mr. C. Jones

July 26, 1983

RECEIVED
JUL 28 P.M.
A. B. C.
MINING DEPT.

TO: Mr. Tom Musick
FROM: Ronnie Key
SUBJECT: ADEM inspection of Maxine Mine on Tuesday, July 26, 1983

On Tuesday, July 26, 1983, Bill Gibson and Steven Jenkins ADEM inspectors were at Maxine Mine. They were accompanied by Sam Gilbert to treated creek and by Ronnie Key to rest of project.

The first area observed was the treated creek where it flows into Coal Creek. Ph of the water was found to be 10.1 at 1:00 pm. Ph reading of 7.8 was recorded at 7:00 am. Corrective measures were taken.

The next area observed was the catch basin at the river belt transfer house.

The next area observed was the limestone filter in the No. 1 dam below washer refuse disposal area. A Ph reading of 3.5 was recorded on the downstream side of the filter.

The next area observed was the new refuse disposal area.

The next area observed was the reclaimed area of the washer refuse disposal area.

NOTE: Bill Gibson INSINUATED THAT NPDES PERMITS MAY BE REQUIRED FOR THE LIMESTONE FILTER AND THE DIVERSION DITCH (DRAINING RECENT RECLAIMED AREA) AT THE NO 1 DAM. AS I UNDERSTAND IT, THIS WAS NOT PART OF THE AGREEMENT AS SIGNED BY JOE MYERS.

RECEIVED

J. M.

JUL 29 1983

A. B. C.
ENV. CONTROL

DRUM003574

maferne

cc: Mr. Breland/Burdette Mr. Stockman
 Mr. Cook Mr. Stuckey
 Mr. F. McDuff Mr. Gilbert
 Mr. Edwards Mr. Lee
 Mr. McAlpin Mr. Hendrix
 Mr. Bryant

July 9, 1980

Memorandum To: Mr. James Brown

From: Jack McDuff

Subject: ASMRC Inspection - June 27, 1980 and July 1, 1980

Chetopa Mine

1.

2.

Mary Lee No. 2 Mine

1.

2.

DRUM003595

- 2 -

Mary Lee No. 2 Mine (Cont.)

3.

4.

SESCO No. 1 Mine

1.

2.

3.

4.

5.

Maxine Mine

1. The hay bales in the creek at the storage yard are in need of replacement.
2. The ASMRC inspector requested that a hay filter be placed in the creek between the scrap yard and the shop. All this drainage goes into the main creek and is retained in the pond created by the large concrete slab placed across the creek. I personally feel this is a waste of time just to meet the inspector's whim, especially in light of recent directives from AWIC to the effect that if it concerns water, that they (AWIC) are the authority. However, the hay filter may possibly reduce the sediment load going into the pond. The creek bed is, for the most part, stable and would add sediment only under heavy rainfall.

DRUM003596

cc: Mr. Lewis
Mr. W. E. Self
Mr. Breland
Mr. Cook/Mr. Musick
Mr. Brown - Chetopa
Mr. McAlpin - ML#1

Mr. Gilbert - Maxine
Mr. Burdette - ML#1
Mr. Stockman - Gorgas
Mr. Stuckey - Segco
Mr. Bradford

*Edward Lee -
Maxine
ML#1
Segco*

February 12, 1976

MEMO TO FILE:

RE: AWIC INSPECTION - MAXINE, MARY LEE #1
AND SEGCO MINES

Mr. Bob Smith and Joe Meyers of the AWIC Technical Staff made an inspection to the above mentioned mines on Wednesday, February 4, 1976. I accompanied these gentlemen during this inspection tour and as noted below a representative from each mine was present.

Listed below are items which must be followed up on with corrective measures:

MAXINE MINE - Present: Smith, Meyers, AWIC; Millican, Hager and Edwards, ABC

1. We first inspected the refuse pile and both men pushed for early action on the back side of this refuse area, as well as several places on the river side. We indicated that we already had preliminary plans and monies approved to implement these plans. They, however, have not been sent a copy of this which we must do.
2. In the wet coal area there were two ponds, one small and one large. These are ponds into which water from the wet coal is drained. Both small ponds have outlets into the river. These must be closed off.
3. Coal dripping from the No. 2 belt line near the barge loading area shows drainage into the river. This must be stopped.
4. The holding pond near the switch station for No. 1 and No. 2 belt lines is running clear, however, there is no provision for containing float dust which will fall over with the water.
5. Another item which must be noted is the small stream running down the Maxine Hollow, this stream has a low pH and we must look into this with the possibility of some type treatment in the future.

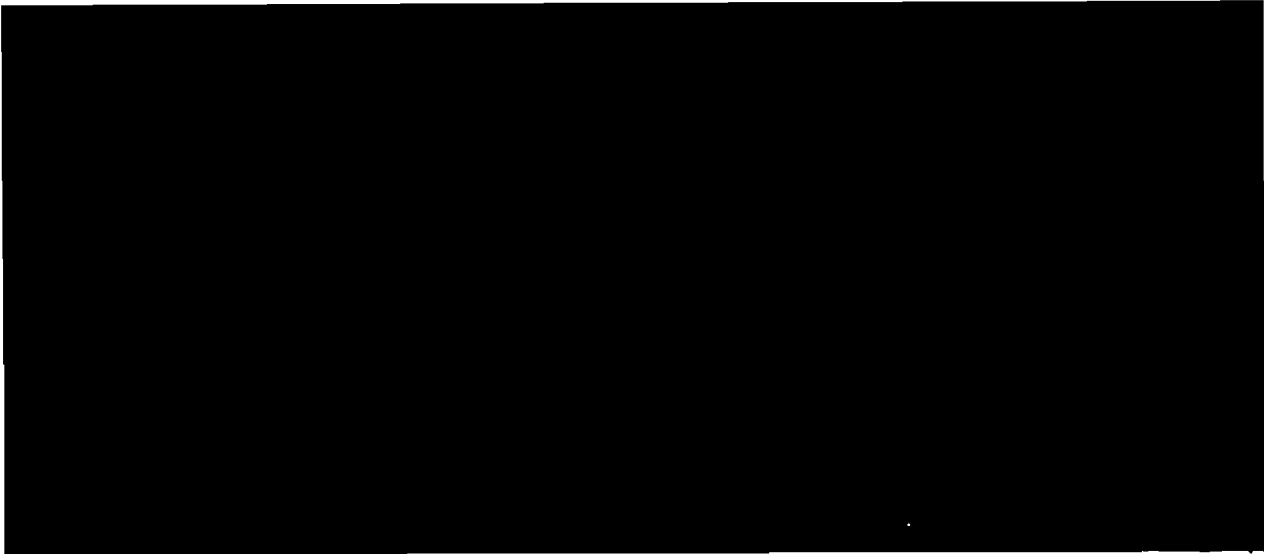
MARY LEE NO. 1 MINE - Present: Smith, Meyers, AWIC; Leonard Wynn and Edwards, ABC



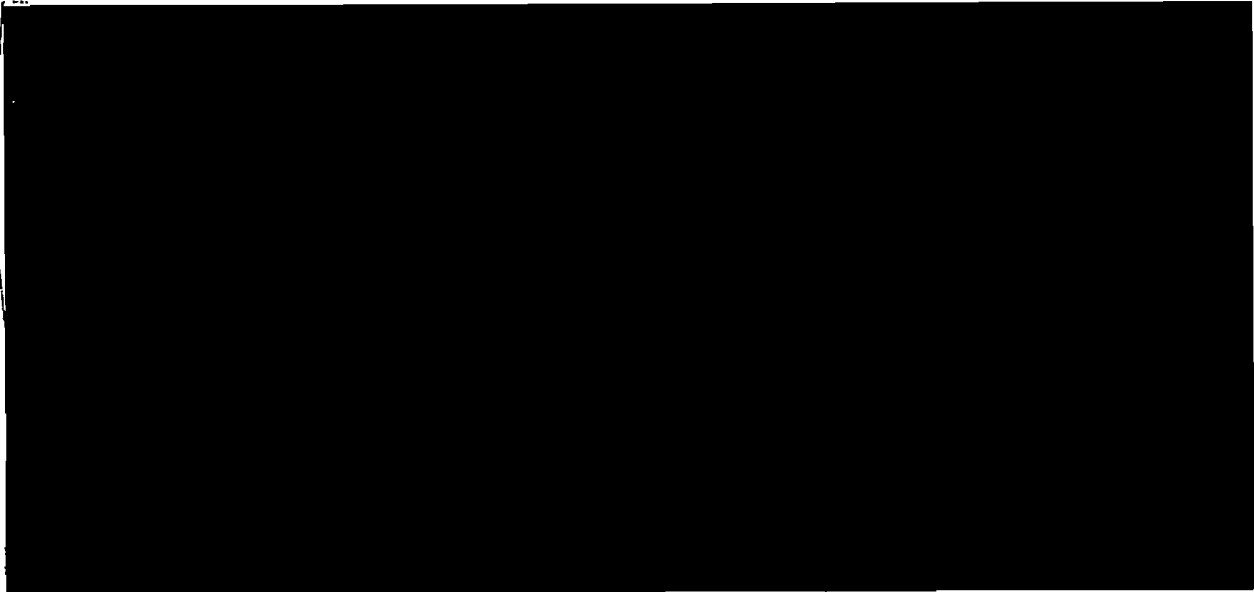
DRUM003640

- 2 -

MARY LEE NO. 1 MINE (Continued)



SEGO MINE - Present: Smith, Meyers, AWIC; Dennis Callahan, Edwards, ABC



These items were all noted by the AWIC Technical Staff. I, in turn, would discuss this with our Mining Department and be back in touch, which I did on Monday, February 9, 1976.

MBE:rl


MOYER B. EDWARDS

DRUM003641

*maxine ✓
mll 1
~~mll 2~~ segco.*

February 9, 1976

MR. BRELAND:

RE: AGENDA FOR POLLUTION DISCUSSION

Items to be discussed relative to pollution control problems at Maxine, Mary Lee No. 1 and Segco Mines are listed below which were noted by representatives of the AWIC Technical Staff during their visit to the mine locations:

MAXINE MINE

1. The refuse area, in particular the back side and those areas fronting the river which indicate washing.
2. The pond area near the wet coal pile which has provisions for drainage to the river.
3. Small pond near the belt switch station at the wet coal pile which has drainage to the river.
4. Drippage from the No. 2 belt near the belt switch station at the wet coal pile - this is draining towards the river.
5. Small holding pond near the belt switch station which gets drainage from the No. 1 belt line, as well as the wet coal pile, at present has an overflow type run-off and no provisions for containing float dust. In addition, someone has placed what appears to be drippage from the belt line into the drainage course of this pond, effluent side.
6. The stream running behind the preparation plant was discussed relative to its low pH.

MARY LEE NO. 1 MINE



DRUM003642

had been approved for ^{work on} the upper pile,
and that we would submit a plan to
them prior to starting work.

Maximo -

Items for which action must be
taken are as follows -

Refuse Pile - S. 1 Station -

wet Coal over - close opening in dirt berm

- eliminate small pool of water
near the large leaky belt -

- Coal spillage from the #2
belt is getting onto the run -

Small Settling Pond - put ⁱⁿ a T drain instead the
current method now used -
this should eliminate float dirt.

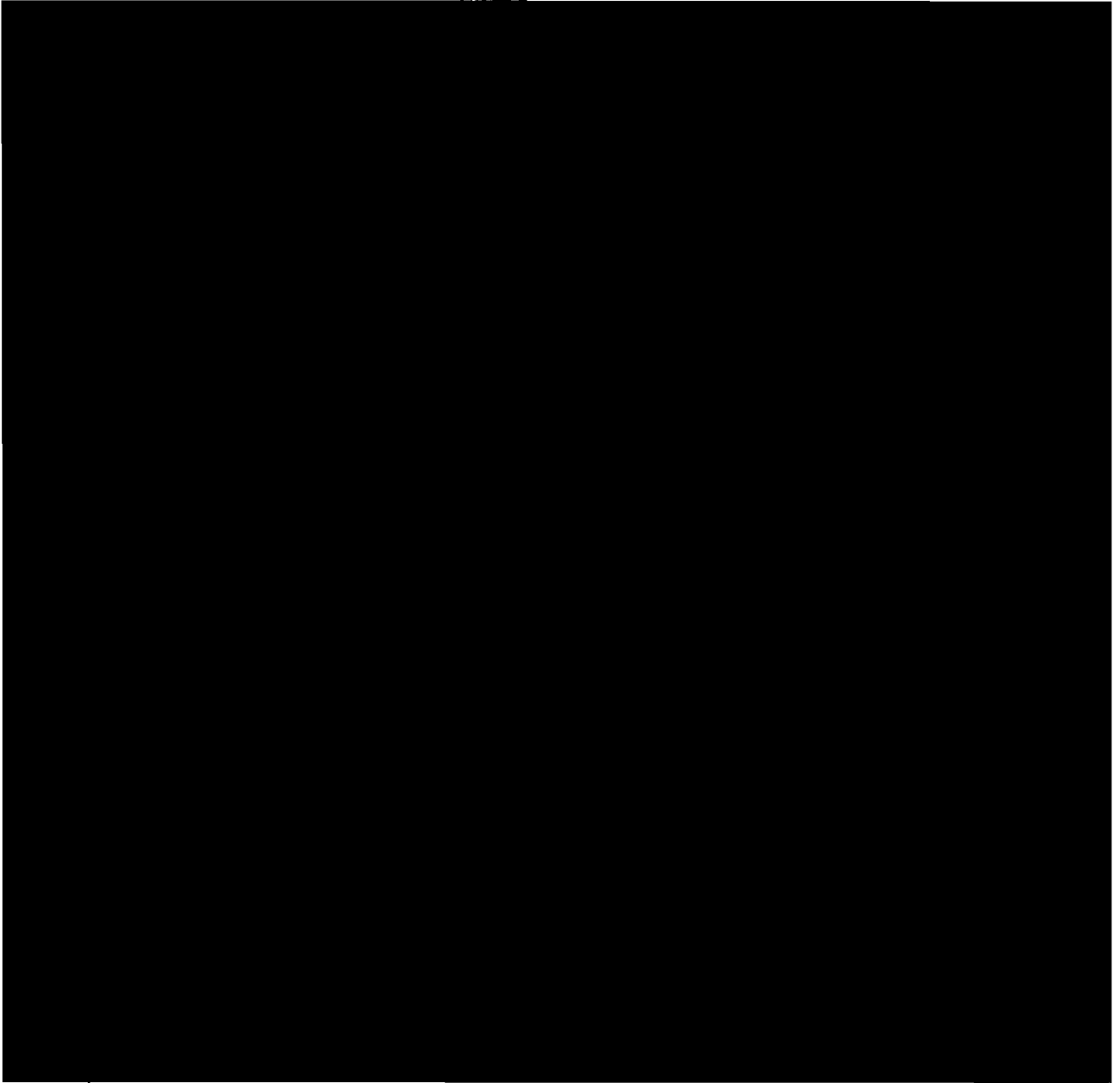
Small Pond behind work - water very acidic -

M

2/4/74

May Lee #1

Santho & Mhu
Lomel Ugin Elevan S



4/4/16 - Smith & Allen HWT
Dennis - Eleanor ADK
Seco - [REDACTED]

Talk to many people - present plan
I met with Smith & Allen
of schedule.

RECEIVED

MAR 13 1985

ABC
LEGAL DEPT.

IN THE DIVISION OF HEARINGS AND APPEALS
ALABAMA SURFACE MINING COMMISSION

ALABAMA SURFACE MINING
COMMISSION and ANITA P.
KELLY, in Her Capacity as
an Inspector for the
Alabama Surface Mining
Commission,

Plaintiffs

vs.

ALABAMA BY-PRODUCTS
CORPORATION,

Defendant

CASE NO: R78-82-134S

O R D E R

This cause came on to be heard upon the Plaintiffs' Motion for Reconsideration the 12th day of March, 1985, and there being present the Plaintiffs by and through their attorney, Norman P. Snell, Assistant Attorney General, and the Defendant by and through its attorney, Curtis W. Jones; and based upon the representations of the Parties, the acceptance of certain Stipulations of Fact, due consideration having been given and for just cause shown, the Hearing Officer hereby FINDS:

1. That Defendant has undertaken corrective action as previously ORDERED,
2. That Defendant has substantially completed reclamation as required by State Law and Regulations,
3. That there remains remedial corrective action necessary to complete the revegetation phase of reclamation on certain areas identified by Plaintiffs to the Defendant on the 11th day of March, 1985, and
4. That Defendant's corrective action and reclamation activities have effectively eliminated any contribution of non-permissible effluent from the old coal processing waste disposal area.

DRUM003649

Case No: R78-82-134S
Order - Page 2

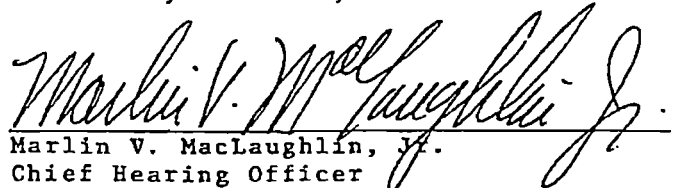
WHEREFORE, THESE PREMISES CONSIDERED, it is ORDERED,
ADJUDGED and DECREED:

1. That Defendant shall perform required remedial reclamation activities to those certain areas identified by Plaintiffs on the 11th day of March, 1985, pursuant to State Law and Regulations said remedial reclamation to be completed no later than the 1st day of June, 1985,

2. That the Division of Hearings and Appeals retains and reserves jurisdiction of the matter of the imposition of assessments, civil penalties or other sanctions as might be deemed necessary and appropriate for further hearing, and

3. That this cause be and is hereby set for further hearing to determine compliance with the provisions of this ORDER and for the issuance of any such further ORDER as may be deemed appropriate at 9:00 A.M. on the 6th day of June, 1985.

DONE and ORDERED this 14th day of March, 1985.


Marlin V. MacLaughlin, Jr.
Chief Hearing Officer

DRUM003650

①

X-110⁵ Alfred Trout

re: Maxim et

9/2/83 - Hon. B. T. ADEM-
B. T. ADEM-

9/2/83 - Hon. B.I.
Doug Cook, Mr. Edwards

How much more we have to do - than Morrie & I
Morrie & I can't

C. Not yet but 15th Sept

Schedule drawn out, ~~157~~ 157, produce each - 3 for 1 each

5

self exp. steel. Franke - poll pumps -

G-Perm. classing?

2. Yes - America seam - - Low plane to go
to Pratt seam. using 10 units out of 10

plans run to abandon own in 6/84 - the expanding
for all reason - use new opening up that

and few problems -

old production. 1st 15 AWIC.

Robert guaranteed it to him & disposed of it until full
red was on both & transferred to Bill Hay - ~~Bill~~

Good by. Prod was red rock after button.

Most of problems - at Maximize & Minimize

Age at Maxilla - Lich Creek cool at Chetopa

Ref. to our trip to Pa., my & WRI, need of

Taylor

Now addresser Maxine -
working to solve problem

H. You can make a policy prob. if econ. aspect of
market side.

(2)

9/4/83

C. Displays photo of max. project showing
 clay - ~~recovered~~ -

H. Ask if I have print - ?

I had one copy of over 5 lines, not bent
 one though.

C. Note what I satisfy ASME

B. Asks if NPDES can be gotten?

H. Thinks so

E. Asks if installed over has to have permit
 H. cond states?

C. Not bonded - due ASME not permitting therefore
 had to make a no bond

Also had zoning problems - Jumper helped on ASME behalf

H. when will reconstruction be completed?

C. Earth work done - stabilizing - eventually trees

G. Release from monitoring, two years season
 6 months

H. often permit until every season
 but what problem has the permit - monitoring?

C. Should not be one permit
 shows small pond - & clean water.

David Jones

Apply for Division ^{ditch} permit #

short back. while construction about ^{coal} Mochel's in
 general - OSM etc.

Mr Horn looks up regulation -

(3)

9/2/83

- A. Have Lb 310 refuse area
- B. Regulation appears to ~~not~~ prevent mining area
- C. Say David ~~will~~ could apply to that
- D. Ask what are we exactly under in re to structure

E. Explain mtg @ AWE & filter structure to get away from joint source.

C. Don't know how this would be handled

G. other minor sample the same and ore

E. Noted Craig in mtg & didn't object to filter down

also Lamont study show no apparent impact this was submitted to AWE -

C. Ask why does this surface at the time

G. Outcropping BME for H₂O quality.

A. wants to make decision on valid reason, must discuss it with others - No precedent too understand - but could be benefit

C. Note problem @ BME & delay plus problem at mine & can that affect it

Prop p/f =

B. back to same problem - what are we to do here

C. Second phase BME - Break rock area 1st phase after conducted water quality would go in

H. How often can high flow exist

C. Don't know -

C. will do when other completed water exposure, storage

7/29/83 Call to Mr. Coot - re: Maxine
Tom has notified me of Expansion
by Gibson & Stan Jettin ADEM-
Mr. Gibson stated that we would probably
need NPDES permits for rock dam
& diversion ditch.

7/29/83 Attempted to contact Mr. Horn of
ADEM but he is out of town
until Monday.

IN THE MATTER OF:)	
)	
ALABAMA BY-PRODUCTS CORPORATION)	OPINION OF THE ALABAMA
G.W. LEWIS AS PRESIDENT,)	SURFACE MINING COMMISSION
)	
RESPONDENT)	Docket No: R78-82-134

FINDINGS AND ORDER

Pursuant to the Order of August 3, 1982, the ASMC Technical Staff has reviewed the corrective action plan submitted by Alabama By-Products Corporation. The plan for the reclamation of the old coal processing waste disposal area and the construction of the new coal processing waste disposal area has been approved.

Upon the receipt by ASMC of a bond to insure reclamation of this area according to the applicable standards, in the amount of \$69,875.00, and the proper posting of perimeter markers showing the exact confines of the waste disposal area as shown in the approved plans, it will be appropriate for Alabama By-Products Corporation to immediately commence preparation and utilization of this area along with the reclamation of the previous coal processing waste disposal area. Based upon these findings, which are mutually agreed upon by the parties, the following Order is issued:

O R D E R

It is hereby ORDERED that Alabama By-Products Corporation shall immediately post the new coal processing waste disposal area as shown in the approved plan with durable and easily recognized perimeter markers.

Alabama By-Products Corporation shall additionally submit to the Alabama Surface Mining Commission a bond for reclamation of this area in the amount of \$69,875.00. This bond shall be released in the procedure as set out in State law for release of reclamation bonds. In the event the area is permitted under a permanent program permit, the bond shall be 100% released upon the issuance of the appropriate permit.

Upon the posting of perimeter markers and bond, Alabama By-Products Corporation shall immediately commence preparation and utilization of the new area and reclamation of the old area (as shown in red on the attached map). This Order does not eliminate the requirement of other State laws and permitting procedures regarding utilization of the new area.

If at any time completion of reclamation of the old coal processing waste disposal area (as shown in red on the map attached hereto and made a part hereof), is accomplished to the standards of State law and regulations, including that such reclamation has eliminated any contribution therefrom of non-permissible effluent, if any, then and in that event an appropriate order of the Alabama Surface Mining Commission shall be entered completely releasing Alabama By-Products Corporation

-2-

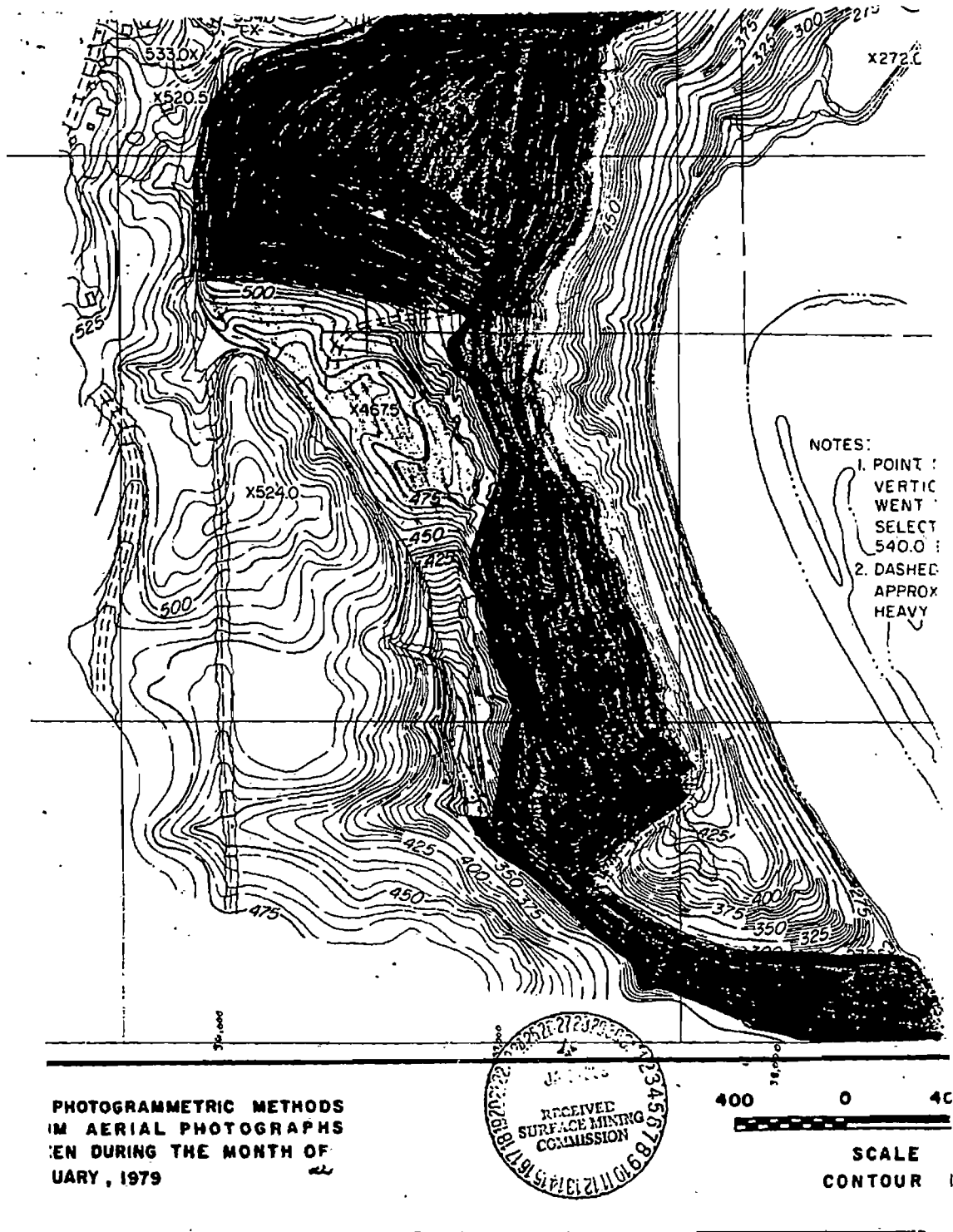
for any and all further reclamation responsibility of the area shown in red.

These proceedings specifically remain open for further orders as may be necessary in the future.

ORDERED BY THE COMMISSION, this the 4th day of February, 1983.

Marlin V. MacLaughlin, Jr.
Marlin V. MacLaughlin, Jr.
Chief Hearing Officer

DRUM003683



DRUM003684

X - 711K. - 2nd copy
4/23/81 copy to:
Jack and Duff

bc: Mr. Breland/Mr. Burdette
Mr. Cook/Mr. Musick
Mr. McAlpin
Mr. Brown
Mr. Gilbert
Mr. Hendrix
Mr. McDuff, F.

March 27, 1981

Mr. Joe Myers
Supervisor - Mining Activities
Alabama Water Improvement Commission
Public Health Services Building
Montgomery, Alabama 36130

Dear Mr. Myers:

This is to confirm our discussions with you and Mr. Napier on Thursday, March 19, 1981, relative to our Mary Lee No. 1 and Maxine Mines. As stated during this meeting our plans for certain potential problem areas will, of necessity, be addressed on a phased basis.

We would first recap the Maxine area discussion. Alabama By-Products Corporation, as part of its continuing pollution abatement program, has addressed the large refuse area at Maxine in a phase or stage approach. As you are aware, the area in question is a drainage from both refuse disposal and undisturbed ground, all sloping to a common drainage course. We have, in the past, constructed impoundment structures in tandem for silt containment, as well as to construct a diversion channel above the upper portion of the refuse area. This diversion would prohibit the waters from the upper undisturbed areas from contact with the disposal refuse. Later the diversion channel was extended to segregate additional runoff from the undisturbed area.

The next phase would consist of extending this diversion channel to the river thus isolating the large storm runoff from the undisturbed area west of our refuse disposal area. We would then construct a diversion channel on the eastern side of the drainage course to again isolate undisturbed runoff water.

As a final step we would then propose to put limestone along the entire inner side of the lower silt structure coupled with a limestone filter approximately 25 ft. x 60 ft. for runoff of excess water. .

We would plan to have the diversions completed by August 1, 1981 and the entire project by November 30, 1981. This, of course, would be contingent upon weather and labor problems.

DRUM003687

Mr. Myers

- 2 -

March 27, 1981

Mary Lee No. 1 - As we discussed during this meeting, we would propose to extend the existing washer discharge pipe to a point across and farther from the impoundment structure. We would also, as a long term approach, propose that we be allowed to discharge this water to the "old" underground works as explained. This would be into the old Gorgas #4 Mine and from which we now have a pump operating. The disposal area in our proposal consist of approximately 1100 acres and would provide some 20 years storage for washer sludge. You will note that the area is also a sloping one which should minimize any stacking effect at the underground discharge point.

This underground disposal will be monitored via Outfall No. 002 and discharge to the existing impoundment would be terminated, except under emergency conditions.

Sincerely yours,



Moyer B. Edwards
Director Environmental Control

MBE:rl
Attachments

DRUM003688

July 27, 1982

BRIEF SUMMARY - MAXINE MINE POLLUTION PROBLEMS

This area has been plagued with problems associated with refuse disposal for a number of years. Initially Staff personnel from AWIC approached me as early as 1973-74 relative to siltation on the large refuse area. At that time in cooperation with the Mining Department Engineering Staff, we attempted to use berms and diversions to decrease the velocity of runoff waters from the refuse areas and thus minimize siltation. It was not until later, after it was determined that we should attempt to extract silt which had moved into the Locust Fork, that a dike was built on the edge of the river and these actions were commenced. A second upper dike was built in the slough at this same time. Since that time the upper dike has been increased in height a number of times due to siltation building up behind it.

We were also asked by the Water Improvement Technical Staff if we could do anything to improve the water quality in the Unnamed Tributary in the Maxine Hollow. At that time we chose to use sodium hydroxide since mixing facilities would not be required. This instream treatment continues to this day, however, the instream treatment has ceased from time to time and unfortunately several Notice of Violations has been issued by the OSM or ASMRC personnel due to low pH. That is the basis for the present actions being carried out in that area at this time.

In the meanwhile, prior to these Notice of Violations, during an inspection by the EPA of the large refuse area a pipe was noted to be protruding from the lower dike near the river which constituted an illegal discharge as no permit had been requested nor obtained for a point source at that location. This pipe

DRUM003692

- 2 -

was to be removed and this area would then be an area source rather than a point source and no permit would be required. We would have pH problems with this water though and several approaches were to be taken in this regard. Diversion ditches were cut on either side of the slough for rain water runoff, a limestone filter was placed upon the tower dike.

The OSM and ASMRC inspections came into a reality and with it additional attention was given the big refuse area, as well as runoff waters. In addition more attention was thrust upon the Maxine Hollow drainage ditch. ^{the train above} Notice of Violation has been issued on that drainage ditch on several occasions for low pH.

Since February we have been issued two Notice of Violations by ASMRC for the Maxine Hollow stream and we have also been informed that both the breaker rock disposal area, as well as the refuse disposal area can not be permitted. Representatives of ABC have met with the ASMRC and AWIC Staff on numerous occasions in an effort to arrive at a workable solution to these problems.

The present status of our discussions is for ABC to present the ASMRC with our proposed plan of action in regards to the areas in question.

EDWARDS

MBE:r1

DRUM003693

June 3, 1985

MEMORANDUM

TO: MR. SHERIFF
FROM: JIM DARDEN *JD*
SUBJECT: MAXINE RECLAMATION

Please find attached a copy of the report prepared by Dr. Pettry and myself concerning the Maxine Mine (abandoned area) Reclamation and Water Quality. The report was presented to Mr. Adair and subsequently to the Southern Company, Gulf and Alabama Power Companies on Friday, May 31, 1985. The Southern Company officials concurred with the report and authorized the reclamation.

Please review the report and disseminate to your staff as you see fit. I welcome your comments concerning the approach and look forward to working with Messrs. Musick, Walker, McDuff or others as you deem appropriate.

Mr. Bowers and I will take the lead role in lining up contractors, material, etc., if this meets with your approval. We hope to begin work not later than June 17, 1985.

JWD:rl :
Attachment

cc: Mr. Adair
Mr. Burdette
Mr. Musick
Mr. Walker
Mr. Bowers
Mr. McDuff, Jack
Mr. Curtis Jones / Mr. Fred McDuff
Mr. Edwards

DRUM003697

RECLAMATION PLAN FOR PRE-LAW REFUSE DISPOSAL AREA
OF MAXINE MINE AND IMPACTS ON WATER QUALITY

Prepared By

D.E. Pettry, Ph.D.

J. Darden, Manager Land
& Forestry, ABC

DRUM003698

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EXECUTIVE SUMMARY

The 34 acre pre-law spoil disposal area of Maxine mine was evaluated for reclamation and stabilization. The spoil originated from the Maxine mine coal preparation plant and it had been deposited prior to 1977. The spoil area is extremely acid, lacks vegetative cover, and is actively eroding. An extensive gulley system is becoming entrenched in the spoil.

The disposal area has a surface area greater than 1,481,040 square feet for contact with precipitation and subsequent acidification to occur. The 34 acre watershed comprised by the spoil drains directly into the water emitted from the mine area which requires treatment. Runoff waters from the spoil have a severe detrimental impact to water quality by making major contributions to acid pH levels, and high levels of sulfate, iron, manganese and suspended solids. Acidic sediment erodes from the unstabilized spoil directly into the drainage system.

A reclamation plan is proposed to stabilize the spoil area consisting of four phases and based upon knowledge gained in recent work at the site. The phases are as follows:

- I. Site preparation and chemical amelioration
- II. Seedbed preparation, chemical beneficiation and planting
- III. Planting pine trees
- IV. Spot treatment of "hot spots" and fertilization

Proposals are also made to ameliorate acidic drainage conditions and improve water quality.

Chemical and vegetative reclamation of the spoil would stabilize the area against continued erosion and sediment emission, prevent acidification of surface waters, and improve quality of runoff waters and the immediate ecological system. Reclamation would also have a major aesthetic impact to the total mine area.

INTRODUCTION

Reclamation of post-law mine refuse areas in conjunction with closure of the Maxine underground mine has focused attention on the bare, eroding pre-law disposal area and raised questions concerning its contribution to stream degradation. This report addresses the nature of the spoil materials and the potential impacts to water quality. A reclamation plan is proposed based on knowledge gained in current and past reclamation activities at the Maxine Mine. The site and materials have been studied for the past two years as background for this report.

NATURE OF THE AREA

The pre-law mine spoil disposal area comprises an area of about 34 acres. The topography consists of a backslope, flat area, and steeply sloping lower outer face. The spoil materials are dominantly black (10YR 2/1), very dark gray (10YR 3/1), and dark gray (10YR 4/1) partially weathered shale and sandstone coarse fragments with scattered carbonaceous fines. The more highly weathered areas on the flat topography exhibit some yellow-brown and yellowish-gray colors (Photo 1). The coarse fragment (>2 mm) content ranges from about 40 to 70% and varies in size from 2 mm to 6 inches diameter (Photo 2). A large proportion of the material is in the 2 to 10 mm diameter range.

Finer textures of higher clay and silt contents occur in isolated "pockets" on the more level areas where greater weathering and less erosion have occurred. The spoil is somewhat compacted near the surface reflecting previous machine compaction and rainfall impact with no protective vegetative cover. The surface tends to be plated with coarse fragments due to erosion and leaching of fines by water action at the surface. The dark color of the spoil is conducive to build-up of high surface temperatures in the summer months which tend to create droughty conditions.

A few isolated depressions in the flatter topography were observed to have perched water tables during the winter months of 1985 at depths of 15 to 20 inches. The restricted subsurface permeability in these areas is due to the accumulation of fines

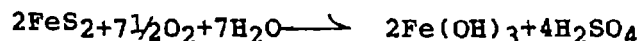
which have filled interstices. Such conditions may represent a temporary stage of weathering and subsurface movement of labile components in the spoil. No water table was detected in auger holes to a depth of 72 inches immediately adjacent to the small (10-15 yards diameter) circular depressions which suggests the wet areas are very local in nature. The free-water represents isolated perching of water near the upper surface of the fill materials that does not extend throughout the matrix of the spoil.

Table 1. pH and Potential Acidity of Representative Spoil After Oxidation with H₂O₂.

Sample	pH	After H ₂ O ₂ Treatment	pH
Backslope 0-6"	3.3	2.8	-0.5
Backslope 6-12"	3.4	2.8	-0.6
Flat Area 0-6"	3.3	2.6	-0.7
Flat Area 6-10"	3.3	2.8	-0.5
Flat Area 10-15"	3.3	2.8	-0.5
Lower Slope 0-6"	3.4	2.7	-0.7
Lower Slope 0-4	2.3	2.0	-0.3
Lower Slope 4-10	2.3	2.4	-0.1
Gulley top, lower slope	3.5	2.5	-1.0
Gulley side, lower slope	3.6	2.9	-0.7
Undisturbed soil on slope below fill	5.8	5.3	-0.5

The spoil materials are extremely acid with pH levels ranging from 3.6 to 2.3. The pH levels are similar to values previously obtained for spoil from the Maxine mine deposited in other locations. The differences in pH levels after oxidation with H₂O₂ reflect the potential acidity remaining to be

weathered. The pH levels decreased from 0.1 to 0.7 pH units indicating the weathered spoil exposed to air has undergone extensive weathering. In comparison, fresh spoil from the Maxine mine had a pH level of 6.3 after 12 hours exposure to the air (previous determination when the mine was operating) and decreased to 2.9 after H_2O_2 oxidation. The extremely low pH levels are toxic to most plants and reflect the oxidation and subsequent hydrolyzing of the pyritic (FeS_2) components in the spoil. The acidification reaction occurring when the spoil, which contains pyrite, is exposed to air and water may be expressed as follows:



The ferrous iron (Fe^{++}) is oxidized upon exposure to the air and subsequently hydrolyzed by contact with water to $Fe(OH)_3$ with production of acidity (H_2SO_4). Pyrites present in the spoil are usually oxidized naturally by both chemical and biological reactions. Based on similarly low pH levels with increasing depth, it appears the bulk of the upper spoil area has weathered to a similar degree. Much of the pyritic materials appear to have weathered to acidic sulfur compounds which results in the very acid status.

DISPOSAL AREA EFFECTS ON WATER QUALITY

The pre-law rock disposal area has an effective watershed area of about 34 acres (1,481,040 square feet). Incoming precipitation is drastically affected by contact with the acidic materials by overland flow and seepage through the refuse materials. The precipitation readily reacts with acidic reaction products of the weathered rock waste resulting in immediate acidification of the water coming in contact with the materials. The resultant waters containing sulphuric acid (H_2SO_4) attain the extremely acidic pH levels of the refuse before entering the drainage system. The pH levels along the drainage system exiting the area clearly reflect the impact of the refuse area (Figure 1). The effective surface contact area is considerably larger than 34 acres due to entrenched gullies eroded into the refuse and slopes which present greater spoil surface for reaction to occur.

The refuse area is essentially bare of surface vegetation except for scattered small pine trees which have become established naturally (Photo 3). The bare surface presents an area greater than one million square feet for rainfall impact and resultant detachment and transport of acidic sediment from the site. Gullies are actively entrenching into the spoil and developing an extensive gulley system on the steeper, lower slopes towards the base of the fill (Photo 4). The gullies have eroded to depths of 7 feet and greater in places and the erosion will continue unless checked by stabilizing the site (Photos 5, 6).

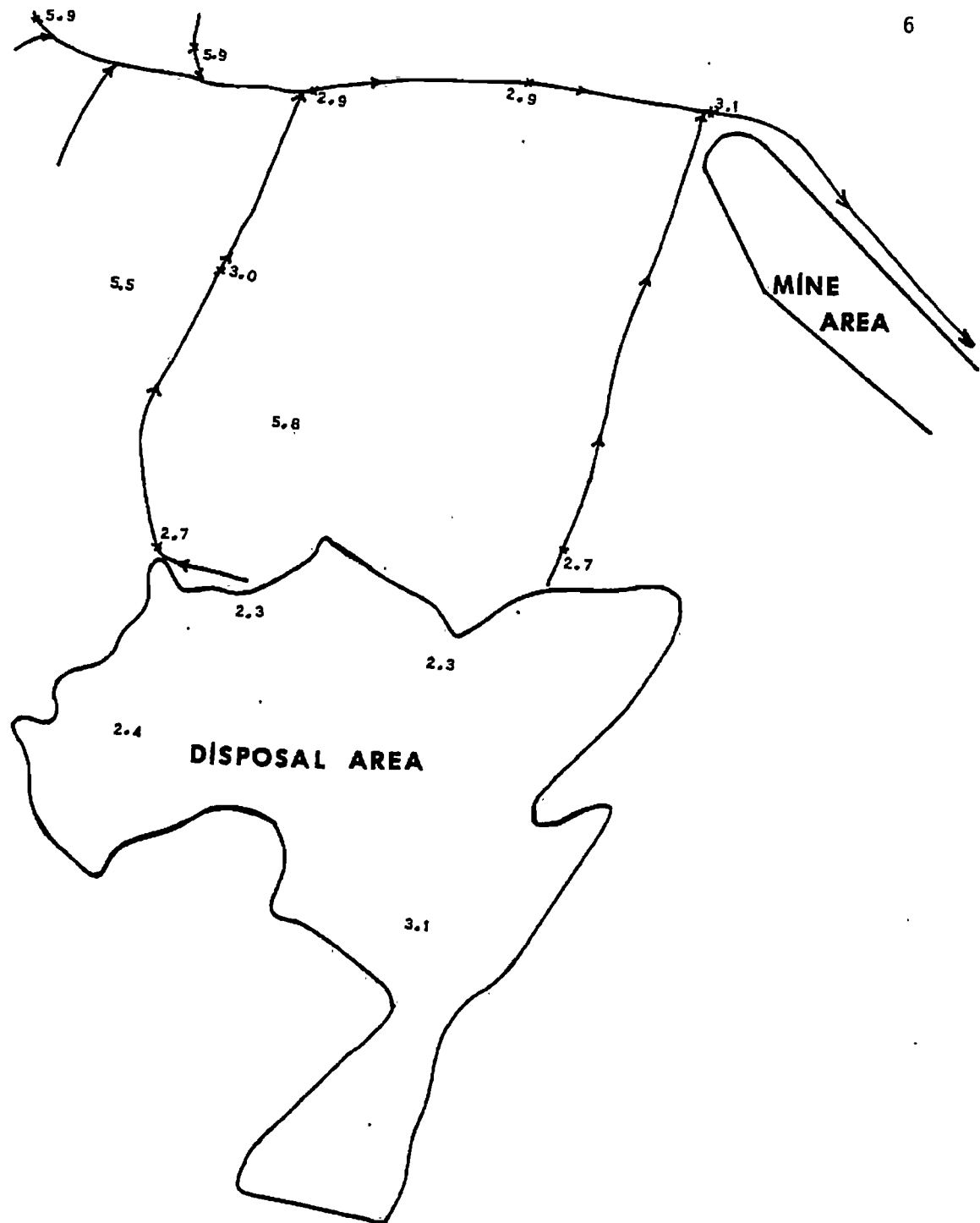


Figure 1. pH Levels of Spoil, Natural Wooded Areas and Drainage Waters Showing Detrimental Impact of Spoil to Water Quality.

The acidic sediment has lined the drainage channels draining the Maxine Mine giving rise to further emission. The runoff waters have considerable velocity during periods of intense rainfall which has immediate effects on the fluctuation in base flow of the drainage system. The water retention time for incoming precipitation does not appear to be very long in duration based on observations during and following rainfall events. Relatively little discharge has been observed coming from the disposal area during dry periods.

The baseflow stream chemistry leaving the Maxine Mine area appears to be controlled by the combination of ground water inputs from the Pottsville Formation and runoff and seepage through the acidic rock disposal material and reclaimed areas in the watershed. Waters leaving the rock disposal area have a profound impact on stream quality as shown in Table 2. The pH of drainage waters in the natural wooded area adjacent to the disposal site ranges from 5.96 to 6.16 with trace quantities of iron and manganese, and low sulfate contents ranging from 20 to 35 mg/l. Water at the edge of the natural area and the disposal area reflect the mixing and detrimental impact of the acidic spoil with pH levels decreasing to 4.04 and sulfate contents increasing to 93 mg/l. Waters draining from the spoil have pH levels ranging from 2.68 to 2.84 and they contain 64-490 mg/l iron, 17-53 mg/l manganese, and 1,768 - 5,983 mg/l sulfate, respectively. The detrimental impact to stream quality is clearly shown in Table 2, after disposal area drainage had

Table 2. Chemical Characteristics of Surface Discharge Waters Collected in Natural Wooded Areas Adjacent to the Disposal Area and Within the Disposal Area on April 14, 1984.[†]

Location	pH	Total Iron	Total Manganese	Total Suspended* Solids	Sulfate
Natural Area	5.96	0.02	<0.1	16	35
Natural Area	5.98	<0.01	<0.1	49	22
Natural Area	6.16	<0.01	<0.1	12	20
Edge of Natural Area - and Disposal Site	4.04	0.04	1.3	1	93
Disposal Site	2.68	490	53	102	5,983
Disposal Site	2.76	92	20	3	2,293
Disposal Site	2.73	410	22	1	4,129
Disposal Site	2.84	64	17	7	1,768
Disposal Site	2.81	78	18	6	2,037
Bottom Disposal Site - Entering Drain	2.81	78	14	56	1,599

* HCl was added to redissolve Fe that had precipitated in collection bottles, which affects suspended solids data.

[†] Analyzed by ABC Laboratory.

entered the system the pH level was 2.81 with higher iron and manganese levels and 1,599 mg/l sulfate. For comparative purposes, researchers (Biesecker and George, 1966) reported that surface runoff waters from nine mines in Appalachia had a pH range of 2.5 to 7.8 with the majority occurring in the 2.5 to 3.0 range. Soluble iron concentrations ranged from 2.8 to 217 ppm, and soluble manganese concentrations varied from 2.2 to 9 ppm.

The surface waters in the natural wooded areas appear to have pH levels of 5.8 to 6.1 with very low levels of iron, manganese and sulfate. The natural precipitation may be somewhat acidic (<pH7), and the precipitation throughfall and interaction with vegetation results in some acidification of the poorly buffered stream during runoff periods. The soils adjoining the disposal area were mapped as Montevallo-Nauvoo Association, Steep (Spivey, 1982). They developed in sandstone and shale and are strongly to very strongly acid. Hence, the acid soils also contribute to the acidic nature of the natural surface runoff. Direct emission to the drainage system from exposed Pottsville Formation outcrops in the watershed may also contribute to the acidity of surface drainage. Recent research on acidification of streams in Pennsylvania (Sharpe et al., 1984) indicated very acidic water emerged naturally from the Pottsville rock formations resulting in low pH levels. It appears likely that surface drainage in the Maxine area before disturbance due to mining activities may have had pH levels of

5.5 to 6, with very low levels of iron, manganese and relatively low sulfate levels.

Without corrective stabilization, it appears that accelerated erosion and gulley development will continue to erode into the refuse material cutting deeper gullies with the "nick-point" moving progressively up slope. Such actions increase the surface area for acidification reactions to occur between the spoil and precipitation, and increase the sediment detachment and emission. Under these conditions, acidity, iron, manganese, sulfate and sediment emissions of a severe impact nature will continue for the foreseeable future and require continued water treatment.

Although non-point seepage and emission from the spoil is evident in places, most of the discharge from the refuse area occurs along well-defined channels. As shown in Photo 8, a defined channel at the bottom of the spoil directs runoff and seepage from the site. Much of the channelized flow exits through the culvert shown in Photo 9 into the drainage of the natural wooded area. However, a large trash dump extends along the outer slope and lies in the path of the outflowing drainage (Photo 10). The trash is located directly in the path of the drainage waters from the culvert. The solid waste comprises a considerable volume and has a heterogeneous composition of metals, plastics, paper, chemicals and containers of unknown content (Photo 10). Contact of the exiting acidic waters with the trash may result in numerous compounds detrimental to

water quality, including iron and other metallic reaction products and possibly chlorinated hydrocarbons. The trash represents a concentrated reservoir of metallic components for entry into the drainage water and subsequent degradation of water quality. Trash was being deposited at the dump as recently as April, 1985, apparently from residences in the vicinity.

RECLAMATION POTENTIAL

Presently, the spoil area represents a very harsh environment for vegetative establishment due to the extremely aciditic conditions which are toxic to most plants, low fertility and hot, droughty nature. However, scattered pine have become established, primarily on the lower slopes where pH levels are slightly higher due to erosion of the finer particles (Photo 4). Although the pine trees appear to be surviving, they have not curtailed the erosion which is actively creating gullies in their presence. A marked absence of other plant types is a conspicuous feature of the site. The black spoil absorbs heat during summer months and experiences a significant heat build-up which is harmful to plants and increases water evaporative losses.

Chemical analysis indicates the spoil contains more than 30 m.e./100g acidity accompanied by elevated levels of aluminum and low contents of calcium, magnesium, potassium and phosphorus. Clay and silt sized particle contents are higher in the flatter topographic positions where less erosion has occurred. The finer sized particles have greater water-holding capacities than the coarser particles as well as greater cation exchange capacities. It is prudent to retain the finer sized particles from losses due to erosion. Erosion is a significant problem in reclaiming mine areas (Rubio-Montoya, 1984), and erosion control is critical to retain fines and reduce sediment emission.



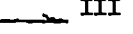
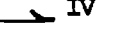
Recent literature (Draper, 1984) indicates successful direct vegetation of acidic deep coal mine refuse was accomplished on a demonstration basis for the Warwick mine coal preparation refuse disposal site in Greene County, Pennsylvania. Current reclamation efforts underway for the Maxine mine washing plant and barge loading area are utilizing mine spoil as an alternative soil material. The knowledge gained in the reclamation efforts at Maxine serve as the foundation for evaluation of the Maxine spoil for establishment of permanent vegetative cover. Pot studies of the spoil and current efforts indicate the feasibility of ameliorating the spoil materials chemically and adapting a prescription vegetative reclamation effort.

When the reclamation program was installed during the late summer and fall of 1984 at the lower Maxine area (washer plant area) a very small plot was prepared in the pre-law area for evaluation purposes by ABC personnel. Preparation of the area and application of amendments and seeding methods only approximated the reclamation efforts at the bottom site. Evaluations of the plot in April, 1985 indicated a partial stand of fescue had survived the winter and was growing (Photo 11). The surviving fescue was growing in depressed rills created by discing and little was noted between rills. The pH levels in the plot were very erratic and ranged from 3.2 to 6.5 indicating irregular distribution and incorporation of $\text{Ca}(\text{OH})_2$ and lime. The lime and plant nutrients had tended to accumulate in the rills with finer particles of spoil. Moisture conditions were also more

favorable in the rills. The fescue had a good root system as shown in Photo 12, with roots penetrating the spoil to the depth of $\text{Ca}(\text{OH})_2$ treatment. The grass exhibited no toxicity symptoms and was actively growing. The roots of the fescue stabilized the spoil where they were growing. The germination, winter-survival and growth characteristics of the fescue grass in the partially treated spoil attests to the feasibility of direct vegetative establishment in the material. Pot tests with the spoil material indicate vegetation can be grown when it is properly beneficiated. The establishment and survival of pine trees by natural invasion of the spoil area also reflects the potential suitability of the material.

PROPOSED RECLAMATION METHODOLOGY

Based upon analyses and evaluation of the spoil materials, the following reclamation methodology and temporal sequence is recommended for consideration. Methodology draws heavily upon practices previously developed for reclamation areas of Maxine.

PHASE	I 	II 	III 	IV 
ACTIVITY	Site Preparation Chemical Amelioration	Prepare Seedbed Add Amendments Plant & Mulch	Plant Pine Trees	Treat Hot Spots
MONTH	June-July-August	September	February	March-April

PHASE I

The area should be disced perpendicular to the slope on the contour to an effective depth of 6-8 inches. Gullies need to be filled with as little disturbance as possible to the site. It may be desirable to haul in material to fill the larger gullies with consideration given to stone and soil materials. Smaller gullies can be smoothed by pushing material with a blade. Following site preparation, three tons per acre of $\text{Ca}(\text{OH})$ should be applied and disced in perpendicular to the slope, followed by another application of 2 tons per acre of $\text{Ca}(\text{OH})_2$. Small terraces should be constructed on the sloping areas with a fire plow to reduce overland flow velocity. The area should

then be mulched with hay (3000 lbs/acre). The mulch will serve as a retardant to soil erosion. The addition of hay also serves to increase the number of microorganisms, enzyme activity and fungal genera in spoil materials as well as provide an available carbon source and aid in moisture retention (Lindemann et al., 1984). The $\text{Ca}(\text{OH})_2$ should react for several weeks before commencing Phase II.

PHASE II

Apply three tons per acre dolomitic lime and one ton per acre of basic slag, and disc in perpendicular to the slope. Apply one ton per acre dolomitic lime, one ton basic slag, and 500 pounds per acre 13-13-13 fertilizer and disc in perpendicular to the slope. Broadcast 60 pounds per acre KY 131 fescue and 15 pounds per acre Kenland red clover (inoculated) by applying half of the seeds in perpendicular directions, and harrow or drag lightly. Mulch with 3000-4000 pounds per acre hay.

PHASE III

Plant pine trees at the rate of 700 to 900 trees per acre during the optimum planting season. Planting the trees at an early stage of the reclamation will permit the root systems to develop simultaneously in the prepared seedbed and minimize later competition. The grass should form a protective sod to stabilize the site against erosion and retain the weathered fine particles in-situ. The grass will also serve as a

protective cover to buffer the site against extreme heat build-up in summer and frost-heave in winter.

PHASE IV

The occurrence of any "hot spots" of low pH which affect vegetative growth should be treated with appropriate amounts of dolomitic lime and/or basic slag to correct the problem. These areas may need some overseeding. The site should be fertilized with 300 pounds per acre of 13-13-13 fertilizer.

Close on-site supervision of the reclamation activities is critical as well as proper timing of each phase of the operation.

EFFECTS OF RECLAMATION ON WATER QUALITY

The impact of reclamation of the 34 acre spoil area watershed cannot be predetermined with certainty. Stabilizing the site with permanent vegetative cover will dramatically reduce the emission of sediment which contains a large proportion of fine particles that are active chemically. Neutralization of the surface six inches with $\text{Ca}(\text{OH})_2$, lime, and basic slag will result in drastic curtailment of the surface acidification reaction on the 1,481,040 square foot area with resultant surface runoff waters leaving the site in a neutral to slightly alkaline condition. The immediate effect of this neutral flow to the drainage at Maxine should serve to dilute and improve the pH levels and lower the sulfate, iron and manganese levels.

In view of the current treatment of water leaving the Maxine mine site and the prospect of continued future treatment to raise pH levels, the proposed improved quality due to reclamation seems of paramount importance both economically and ecologically.

Recent research findings (Brown et al., 1984) reported water quality of revegetated non-topsoiled lignite spoils approached that of undisturbed soils after 15 months. The pH and iron levels soon approached that of the undisturbed area.

CORRECTIVE ACTIONS IN DRAINAGE SYSTEM

Prompt corrective actions to the immediate drainage system emitting from the pre-law spoil area are deemed prudent. It is recommended that the trash dump in the interception area of exiting waters be closed immediately to further dumping. The trash located in the drainage way should be removed, and the area should be treated with $\text{Ca}(\text{OH})_2$. Trash located above the direct contact area with drainage waters should be treated with $\text{Ca}(\text{OH})_2$, covered with at least 12-18 inches of topsoil and vegetated. It may be as economical and feasible to haul all the refuse off the site to a proper landfill for disposal rather than plate it.

Much of the upper drainage system immediately below the spoil area contains acidic spoil as shown in Photo 9. This acid material serves as a constant source of acidification to

the drainage waters and source of sulfate, iron, and manganese. Fines from the spoil sediment (clay and silt) have tended to armour (coat) sandstone and shale coarse fragments which then serve as a constant source of acid in the drainage waters. Immediately below the drainage culvert in Photo 9, the channel bottom is coated with red iron oxides for some distance where the iron enriched leachate waters have reacted with oxygen and precipitated the iron to an insoluble form. It appears that the red iron oxide coating forms during periods of reduced flow, and the material is periodically purged during peak flows when the water contains a high sediment load.

It is recommended that the acid sediment deposited upstream of the culvert be removed by backhoe or front-end loader and a neutralization interception system be constructed of $\text{Ca}(\text{OH})_2$, lime, and limestone. A similar intercept should be prepared at the other main outflow. It is further suggested that the drain at the bottom of the spoil as shown in Photo 8 be lined with limestone coarse fragments to reduce flow velocity and neutralize acidity.

PROPOSED BUDGET

<u>PHASE</u>	<u>TIMEFRAME</u>	<u>COST*</u>
I - <u>SITE PREPARATION</u> - Disc, fill gullies, cut grooves, apply Ca(OH) ₂ at 3 T/Ac. and disc, apply Ca(OH) ₂ at 2 T/Ac. and mulch with 3000 to 3500 lbs. hay/acre. Let react 6 weeks to 2 months.	Begin June-July 1985	\$ 29,340
II - <u>AMELIORATION AND PLANTING</u> - Apply 3 T/Ac. dolomitic lime and 1 T/Ac. basic slag and disc. Apply 1 T/Ac. dolomitic lime and 1 ton/Ac. basic slag and 500 lbs./Ac. 13-13-13 fertilizer and disc in. Broadcast 60 lbs./Ac. KY 131 Rescue and 15 lbs./Ac. Kenland Red Clover. Harrow or drag lightly and mulch with 3000 to 4000 lbs. hay/acre.	September 1985	25,500
III - Plant pine trees at rate 700 to 900 trees per acre.	January - February 1986	2,500
IV - Treat and overseed "Hot Spots," and fertilizer with 300 lbs./Ac. 13-13-13 fertilizer.	March - April 1986	1,700
<u>WATER QUALITY OPERATIONS</u>		
Remove and clean up dump. Construct drainage intercept and neutralization systems (2) at primary exit drains. Line bottom channel with limestone riprap. (Summer activity with Phase I)	June 1985	5,200
	15% Contingency	\$ 64,240
	ABC Land Mgt. Time	9,600
	Consulting Fees	10,000
	<u>TOTAL</u>	<u>\$ 93,840</u>

20

*Costs include labor, materials and equipment

DRUM003721

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Photo 1. View of the Flatter Topographic Part of Refuse Area Showing Microrelief and Surface Flow Patterns. The Area Is Bare of Vegetation Except For Volunteer Pine Trees. Note Coarse Fragment Surface Pavement and Brighter Colored Weathered Coarse Fragments.



Photo 2. Shallow Excavation Into Spoil Showing the Mixture of Fines and Coarse Fragments. A Large Proportion of Coarse Fragments Are Less Than Two Inches Diameter.



Photo 3. View of Middle Slope Position of Rock Disposal Area Showing Developing Gullies. Surface is Bare of Vegetation Except for Few Isolated Pine Trees That Have Invaded the Site Naturally. The Gulley System is Progressively Moving Upslope.

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Photo 4. Sideview of Midslope Position Showing Extensive Gulley Development Which is Progressively Eroding Deeper and Moving Upslope. Sediment from the Gullies Enters the Drainage System.



Photo 5. Large Gulley on Lower Slope Position Which Has Eroded to Depths of 7 Feet. Note Uniformity of Material in the Banks of the Gulley. Finer Particles Have Been detached and Transported as Sediment to the Drainage System.



Photo 6. Close-up View of Gully on Lower Slope Showing the Concentration of Coarse Fragments Remaining After Finer Particles Have Eroded Away and Entered Drainage System. The Largest Coarse Fragments are About Seven Inches in Diameter. Note Iron and Sulfur Compounds Coating Rocks.

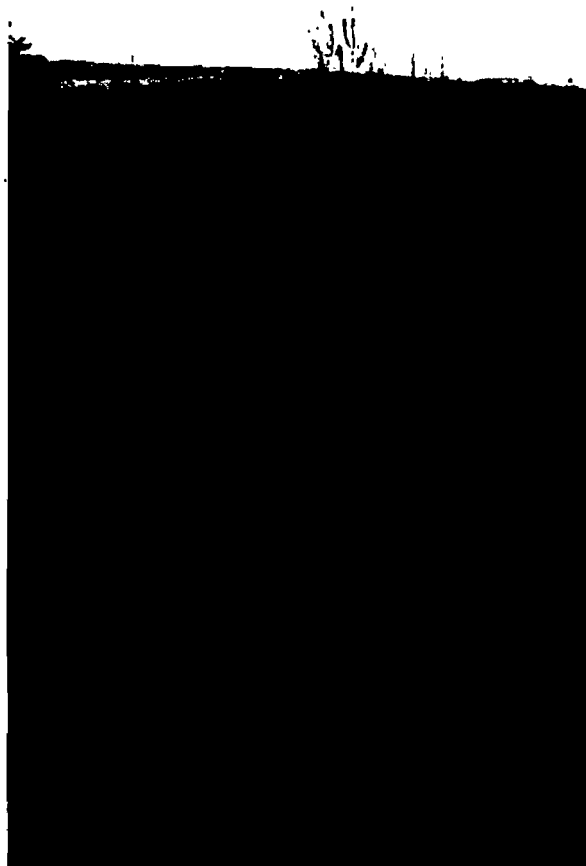


Photo 7. View of Bottom Edge of Rock Disposal Area Showing Large Gulley. Inside of Gulley Suggests Previous Combustion Activity. Note Thin Soil-Spoil Mixture and Pine Trees.



Photo 8. Bottom Edge of Disposal Area Showing Gulley Outlets and Drainage Channel that Collects Surface Runoff From Spoil and Seepage. Note Lining of Channel with Acidic Spoil Material and Iron Oxide Coatings.



Photo 9. Drainage Channel Immediately Downslope From Disposal Area Showing Culvert Passing Under Road Constructed of Old Spoil and "Red Dog." Note Accumulation of Acidic Spoil on Bottom of Channel Which Will Move Downslope Into Drainage System. Much of the Surface Flow from the Disposal Area Exits Through This Culvert.



Photo 10. Trash Dump Located Directly in the Path of Water Draining the Disposal Area. Trash Covers Downslope Exit of Culvert. Note Diversity of the Trash Which Serves to Add to Degradation of Stream Quality. Channel Exiting Bottom of Dump is Coated with Red Iron Oxide.



Photo 11. View of Small Plot Located on Disposal Material Showing Fescue Growth in April, 1985. Note Concentration of Grass in the Rills. The Area Was Planted in Early Fall 1984 in Partially Amelioriated Material.



Photo 12. Close-up View of Fescue Clump in Experimental Plot in Spoil. The Fibrous Root System Had Developed to Depth of $\text{Ca}(\text{OH})_2$ Incorporation. Note Stabilization of Spoil Material by Fibrous Root System Which Would Prevent Erosion.

maxine

AGREEMENT FOR PURCHASE OF COAL

BETWEEN

ALABAMA BY-PRODUCTS CORPORATION

AND

**ALABAMA POWER COMPANY,
GEORGIA POWER COMPANY,
AND GULF POWER COMPANY.**

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THIS AGREEMENT made and entered into as of the 19th day of August, 1952, by and between ALABAMA BY-PRODUCTS CORPORATION, a corporation organized and existing under and by virtue of the laws of Delaware (herein called Seller) as party of the first part, and ALABAMA POWER COMPANY, a corporation organized and existing under and by virtue of the laws of Alabama, GEORGIA POWER COMPANY, a corporation organized and existing under and by virtue of the laws of Georgia and GULF POWER COMPANY, a corporation organized and existing under and by virtue of the laws of Maine, as parties of the second part (said parties of second part herein collectively called Buyer);

WITNESSETH

That Whereas, the Seller is the owner of certain coal lands located in the Prescott Creek area in Jefferson and Walker Counties, Alabama, estimated to contain on a recoverable basis approximately eighteen million (18,000,000) net tons of coal in the American seam; and

Whereas, the Seller proposes to open, develop and construct a coal mine known as Maxine (hereinafter sometimes referred to as "A" mine) in such Prescott Creek area and to mine coal from the American seam thereon for sale to Buyer upon the terms and conditions hereinafter set out; and

Whereas, the Seller has heretofore given to the Buyer all of its information covering the geological data of the area where said mine is proposed to be opened, including information as to drillings, cores, analyses (including those made by independent and impartial laboratories), cover, anticipated roof and floor conditions, and Buyer is fully familiar with such data; and

Whereas, Buyer is familiar with the operation of coal mines similar to that to be opened hereunder and with the structures, improvements, railroads, facilities, developments, material, equipment and supplies necessary for the construction, operation and maintenance of such a mine; and

Whereas, the Buyer desires to purchase certain coal thus mined by the Seller for use in certain steam-electric generating plants owned and operated by Alabama Power Company, Georgia Power Company or Gulf Power Company, upon the terms and conditions hereinafter set out:

NOW, THEREFORE, IT IS HEREBY MUTUALLY AGREED AS FOLLOWS:

1. Opening and Construction of Mine

The Seller shall open, construct, develop, equip and operate a coal mine and appurtenances upon Seller's said lands in the Prescott Creek area, being the lands described in Exhibit B hereof hereinafter referred to, at a location to be mutually agreed upon by Seller and Buyer, such mine being herein referred to as "A"

expenditure shall be considered for all purposes hereunder to have been approved by Buyer. If Seller fails to request approval of Buyer of any expenditure for which Buyer's approval is required hereunder, or if Buyer objects to or disapproves or fails or refuses to approve any expenditure, or whenever the reasonableness of the overall inventory of supplies or of any individual item or items thereof is in dispute between the parties, the reasonableness of such expenditure, or of such overall inventory or item or items of supply, shall be promptly submitted to and be determined by arbitration as provided for herein.

No capital expenditure or item of supply (except as otherwise specifically provided for in this agreement) shall be included in net investment or cost of any kind hereunder (1) where approval of Buyer thereto is required hereunder, unless such expenditure shall have been approved by Buyer, or shall have been submitted to arbitration and determined by the arbitrators not to be unreasonable, or (2) where approval of Buyer thereto is not required but Buyer has the right to object thereto hereunder, if such expenditure, overall supply inventory or item or items of supply shall have been objected to by Buyer as being unreasonable and, if Seller shall have contested that the same is unreasonable and it shall have been determined by arbitration to be unreasonable. Any changes, additions or modifications in or to said mine and its appurtenances, however, which may be required by or under any law, governmental regulation, ordinance or order, or any final judicial decision, or union regulation or requirement of general application to coal mines in Jefferson and Walker Counties, Alabama, whether related to safety or health or otherwise, shall be made whether or not approved by Buyer and shall be included in net investment or cost.

b. The Seller shall undertake to provide or to arrange for the furnishing of railroad facilities (satisfactory to and approved by Buyer) to the "A" mine site, any cost thereof to Seller to be included in net investment, and the Buyer shall provide electric power lines to such site as provided in Section 12 of this agreement.

c. All work of construction and mining and preparation of coal shall be done by Seller efficiently and in accordance with good mining practice.

2. Term and Cancellation

The term of this agreement shall be for a period commencing July 1, 1952, and ending fifteen years from the date on which "A" mine is first in normal operation, or on June 30, 1969, or when the recoverable coal is earlier worked out, whichever first occurs. For the purpose of this agreement "A" mine shall be considered in normal operation on the first day of the month following the first month in which "A" mine attains a production of 49,000 net tons

shall have the right or option, upon six (6) months' notice to Seller prior to the expiration of such term, to renew or extend this agreement as to all of its terms and conditions for a further period of ten (10) years or until the recoverable coal is earlier mined or worked out.

c. Upon the expiration of the term of this agreement, or, if this agreement is renewed or extended, upon the expiration of such renewal or extension, Buyer shall pay Seller the then unamortized development cost and the depreciated cost of the structures, improvements, railroads, or railroad materials, facilities, material, equipment and supplies theretofore purchased by Seller for use at "A" mine. Said structures, improvements, railroads, or railroad materials, facilities, material, equipment and supplies shall thereupon become the property of Buyer and Buyer shall have the right at its own risk to maintain the same on Seller's property for nine months from the date of such payment and may remove same within said nine months, but if the Buyer does not remove the same, or any part thereof from Seller's property within said nine months, then such of same as is not removed within said period shall become Seller's property.

3. Quantity of Coal to be Purchased

During the development period of the mine and until the mine is producing a minimum of 49,000 tons of coal per month, all coal produced at such mine shall be sold by Seller to Buyer and shall be purchased by Buyer from Seller, except as hereinafter provided. After "A" mine attains a production of 49,000 net tons of coal per month, Buyer shall purchase from Seller, and Seller shall sell to Buyer, a minimum of 49,000 tons of coal per month from such mine, except as hereinafter provided. At any time after such mine is producing a minimum of 49,000 tons of coal per month, or such lesser amount as Buyer shall have elected to take under its option to reduce tonnage, Buyer shall have the right to require Seller to increase the production of coal from such mine and to sell to Buyer hereunder additional coal from such mine in any quantities above 49,000 tons per month (or above such lesser amount) and up to the maximum reasonably available productive capacity of such mine consistent with the proper development of the mine and with the structures, improvements, railroads, or railroad materials, facilities, developments, material, equipment and supplies from time to time approved by Buyer for the construction, operation, development and maintenance of "A" mine and appurtenances, provided Buyer gives Seller twelve (12) months' written notice of its desire to increase such tonnage, and provided also that such increased production is not prevented by reason of governmental laws, regulations and orders, unavailability of labor, supplies, material or equipment, or other contingencies beyond the reasonable control of the Seller. If at any time during the original term of this agreement, or the term

ciently, or that Buyer, if the reasonable necessity thereof is disputed by Buyer, shall approve for such installation such equipment, machinery and facilities as may be determined by arbitration, as provided for herein, to be reasonably necessary for such purpose). The amount of such BTU content during such test period shall be established by tests made jointly by Buyer and Seller, or, if not made jointly, acceptable to the party not making the tests. The average BTU content of such coal produced during such test period, on said delivered basis adjusted to said moisture basis, shall thereafter be the standard BTU content for the purposes of this agreement, except that if such average BTU content is less than 12,750 BTU's said standard shall be 12,750 BTU's, on said above basis, or if such average BTU content is more than 12,900 BTU's said standard shall be 12,900 BTU's, on said above basis. Any question as to the BTU content of the coal, or as to efficient operation, or use of proper methods, machinery, equipment or facilities, during such test period which cannot be agreed upon by the parties shall be determined by arbitration as provided for herein.

In the event the average annual BTU content of such coal (as established by tests made jointly by Buyer and Seller, or, if not made jointly, acceptable to the party not making the tests) for any calendar year under this agreement subsequent to the expiration of such test period, is less than the standard BTU content on a delivered (at Buyer's generating plants) BTU basis adjusted to such moisture basis, the Seller shall, provided that Buyer shall have approved for installation at "A" mine all equipment, machinery and facilities reasonably considered by Seller necessary to prepare or dewater the coal in order to meet the said standard (or provided that Buyer, if the reasonable necessity thereof is disputed by Buyer, shall have approved for such installation such equipment, machinery and facilities as may be determined by arbitration, as provided for herein, to be reasonably necessary for such purpose), adjust the price for the coal sold and delivered to Buyer hereunder during any such subsequent calendar year pro rata on the basis of the actual average annual delivered BTU content per pound of said coal adjusted to such moisture basis; Seller shall thereupon have the option to continue to supply coal to Buyer hereunder at such adjusted price, subject to year-end adjustment on said actual average annual BTU content, or, within one calendar year thereafter, to cancel this agreement upon six months' written notice; such right to cancel this agreement shall, however, be suspended and of no effect during any period that Buyer may waive the price adjustment for the lowered BTU content of such coal and shall pay the full price therefor.

In the event that the average annual BTU content of such coal (as established by tests as hereinabove provided) for any cal-

sample theretofore made, such sample shall be jointly submitted by the parties to Southern Testing Laboratories, or to some other mutually acceptable independent chemist, for testing; the results of such test shall be final and binding on the parties and the cost of such independent test shall be paid jointly by the parties.

5. Size, Delivery, Shipment and Weights

The size of the coal to be delivered hereunder by the Seller to the Buyer shall be $1\frac{1}{2}'' \times 0''$, or in a range of $1\frac{1}{2}'' \times 0''$ to $3'' \times 0''$, as designated from time to time by Buyer, or as otherwise mutually agreed upon. Shipments of coal shall be made in approximately equal monthly and daily quantities (on the basis of five working days per week, holidays excepted), so as to assure minimum operating cost, but the Buyer shall have the privilege from time to time of designating the monthly and daily quantities provided that Seller shall not be required, except as otherwise specified herein, to make deliveries more than ten per cent in excess of or less than normal quantities without its consent, and further provided, that the Buyer shall in any event purchase and pay in each calendar year for the minimum annual tonnage as provided in Section 3 hereof, as modified by the provisions of Sections 4 and 6 hereof.

All coal shall be delivered and title thereto shall pass to the Buyer at the mine when loaded for transportation to destination and shall be shipped from the mine to such steam-electric generating plant or plants as may from time to time be designated by Buyer. Shipment shall be by any method of transportation designated by Buyer, consistent with the transportation means available, and Buyer shall have the right to determine and designate transportation routing. For the purpose of determining the payments to be made per ton for coal sold hereunder, destination weights, that is, weights of coal at the steam-electric generating plant where destined for use, or when scales for weighing are not available at any such plant the weight at the point nearest such plant where scales are available, shall govern, except as to the weight of coal lost in transit. Weights shall be determined on scales under the supervision of the Southern Weighing and Inspection Bureau, or if such scales are not available the scaling and weighing methods shall be subject to joint supervision by Buyer and Seller.

Buyer shall prior to unloading inspect all shipments of coal received hereunder to determine whether or not there has been any loss of coal in transit. Buyer shall likewise promptly notify Seller of any shipments not received. In the event any such loss or any failure to receive a shipment is indicated, Buyer shall promptly take steps to protect any claim against the carrier and shall notify Seller of the loss. Seller agrees to and shall have full authority for

basis. For the purpose of this provision the life of "A" mine shall be estimated at 25 years from the date the mine is first placed in normal operation.

Depreciation expense shall be based on the original cost of the depreciable property and the estimated useful life of such property and shall be computed on a straight line basis at annual rates to be mutually agreed upon, and applied to original cost until fully depreciated or removed from service. There shall be no depreciation of supplies in stock.

Such amortization and depreciation shall be included in cost through appropriate monthly charges.

b. **Depletion:** A charge shall be made for depletion at the rate of two cents (2¢) per net ton for all coal produced at "A" mine which is mined from said lands now owned by Seller. The rate of depletion applicable to coal mined from lands hereafter acquired by Seller shall be based on the cost of such lands as follows: The purchase price, which must be first approved by Buyer, shall be divided by the reasonable estimated amount of recoverable coal in the seam to be mined in the acquired lands.

c. **Royalties:** In the event any coal is mined and delivered to Buyer from lands which may hereafter be leased by Seller from others after the approval of the Buyer, the actual rate of royalty paid by Seller shall be applicable, unless said royalty payment per ton of coal also covers the purchase of additional coal for future mining, in which event only the applicable proportion of said royalty payments shall apply to coal sold to Buyer.

d. **Operating Cost:**

(1) **Labor Cost**

(a) **Supervisory and Clerical Salaries:** The cost not included in the mine labor, of salaries and other compensation of all employees engaged exclusively in the mining or preparation or servicing of coal produced at "A" mine, or whose duties relate exclusively thereto, including but not limited to salaries of mine superintendents and assistants, safety, electrical, construction and mining engineers, electricians, mine foremen and bosses, chief clerks and clerks in mine offices, watchmen, weighmen, chemists, scale inspectors, draftsmen and auditors, but excluding all such salaries, compensation and expenses which are properly chargeable to Seller's administrative and general expenses, and also excluding Seller's selling, advertising and other sales expenses. By mutual agreement salaries of certain other personnel may be prorated between "A" mine and other mines of the Seller, in accordance with the respective services of such personnel to the various mines.

(b) **Mine Labor:** The cost of wages and other compensation

addition to customary catastrophe insurance, Seller shall, if requested by Buyer so to do, carry insurance protecting Seller and Buyer from any loss or damage to any facilities, material or equipment in the mine resulting from fire, explosion or any catastrophe, including use and occupancy insurance covering loss due to shut down of mine as a result of any catastrophe. The cost of any premium therefor shall be included as a cost item herein. The reasonableness of any insurance carried by Seller substantially different in type, kind or greater in amount to that normally carried on similar operations and properties by companies engaged in similar businesses in Jefferson County, Alabama, shall upon objection by Buyer be submitted to arbitration as provided herein and, if determined by the arbitrators to be unreasonable, the cost thereof attributable to such unreasonable excess shall not thereafter be charged as an item of cost hereunder.

(6) **Maintenance and Repairs:** Shall include all other cost for labor, materials and supplies necessary to keep the plant and property at or used in connection with "A" mine in first class condition, such cost to be handled in accordance with generally accepted accounting principles.

(7) **Miscellaneous Mining Expense:** Includes all costs which directly apply to "A" mine and which are not otherwise covered.

e. **Taxes:** Shall include all local, state and federal licenses and taxes appertaining to the properties and operations of "A" mine, and sales applicable to coal taken by Buyer from "A" mine, except federal and state income or profit taxes, and except sales taxes applicable to coal sold by Seller to others. The portion of Seller's land or interests in land which is to be considered as a part of "A" mine for tax purposes, and for all other purposes under this agreement, shall be that specifically described in Exhibit "B" which is attached to and made a part of this agreement.

f. **Claims for Compensation, Personal Injury and Property Damage:** Shall include all cost (not reimbursed by insurance provided for herein) applicable to the operation of "A" mine arising out of claims for compensation, personal injuries and property damage sustained by employees and others, including cost of services and expenses of claim agents, adjusters, accountants and attorneys, including either insurance premium payments or proper charges, to create and maintain a separate fund for such purposes, the amount thereof to be determined from time to time by mutual agreement. Any balance remaining in such separate fund after termination of this agreement, by expiration or otherwise, and after settlement of all outstanding claims for compensation, personal injuries, and property damage, shall be paid by Seller to Buyer.

become obsolete or is otherwise required to be withdrawn from service shall be made by mutual agreement. Any net profit or loss, after all taxes (including benefit of any reduction in income or profit taxes resulting from the tax deductibility of any such loss and of any increase in such taxes resulting from any such gain) on the sale or other disposition of such materials, supplies and equipment as has been mutually agreed upon, shall be applied to cost during the month of sale or disposition and the depreciated value, if any, remaining in net investment shall be removed at that time.

j. **Price of Development Coal:** Buyer shall not be required to pay for development coal during any development period any amount in excess of the then current guaranteed maximum price. In the event, however, the price for such coal calculated as provided in this Section 7 is, during any such development period, in excess of such guaranteed maximum price, such excess shall be capitalized and treated as a part of the net mine development cost or shall be handled as otherwise determined by mutual agreement.

Development coal shall mean (1) during the initial development period, all coal produced at "A" mine, and (2) during any further development period, that coal produced at "A" mine in the area or areas then being developed for the purpose of increasing the capacity of "A" mine.

k. **Allocation and Proration:** Except as otherwise provided for herein, whenever there is any provision in this agreement for allocating or prorating cost between "A" mine and other mines of the Seller, such allocation or proration shall be determined by mutual agreement of Seller and Buyer. Whenever there is any provision for allocating or prorating cost between Buyer and other purchasers of coal from "A" mine, such cost shall be allocated or prorated on a tonnage basis, based on the total tons of coal produced at "A" mine.

8. **Guaranteed Maximum Price**

It has been mutually estimated as of November 1, 1951, that the cost of mining coal with mining machines commonly known and referred to on the date of the execution of this agreement as continuous miners, based on the conditions set out below, should be approximately as follows:

<i>Annual Production</i>	<i>Capital Investment</i>	<i>Total Price Inc. Int. & Profit</i>
588,000 Tons	\$2,691,000	\$3.86 per ton
768,000 Tons	3,149,500	3.73 per ton
1,008,000 Tons	3,672,000	3.61 per ton

The above estimated Capital Investment includes an estimated expenditure of \$343,000 for railroad facilities to a plant site near

of (a) any change in net investment which has been made with the specific mutual understanding that a decrease or increase in cost should result, (b) any change in interest and/or depreciation charges on the net investment, (c) any change in such wage scales applicable to mining operations at "A" mine, (d) any change in the per-ton rate of the welfare or retirement benefit funds, (e) any change in man-hours of work per week or per day due to changes in labor contracts or refusal (general in the district) of the miners to work on the existing schedule, or to federal or state governmental action requiring such change, (f) any change in the 5-day 2-shifts-a-day regular work week schedule due to changes in Buyer's requirements for coal or to strikes, (g) any imposition by federal or state statutes of a tax on the sale, mining or delivery of coal, or changes in the rate of such existing taxes subsequent to November 1, 1951, (h) any change in federal or state statutes imposing a levy or tax on payrolls or otherwise, for unemployment compensation, old-age benefits or retirement pay, and any change in the rate thereof from the rate in effect for Seller on November 1, 1951, under such statutes, (i) any change in cost of insurance on approved coverage, (j) any change in the normal monthly charge of 2¢ per ton for a reserve for payment of claims for workmen's compensation, personal injury or property damage, or any change in cost resulting from any causes covered in Section 6 hereof reimbursement for which is not provided by insurance the premiums on which are included in cost hereunder, (k) any change in the cost of necessary materials, supplies and/or power for the proper operation of said mine, (l) any profit or loss on salvage, and (m) any change in cost resulting from changes, additions or modifications in or to said mine or its appurtenances which may be required by or under any law, governmental regulation, ordinance, or order, or any final judicial decision, or union regulation or requirement of general application to coal mines in Jefferson and Walker Counties, Alabama, whether related to safety or health or otherwise, the guaranteed maximum price per ton then applicable to coal from the American seam from "A" mine shall be correspondingly increased or decreased. No increase or decrease in the cost of any items other than those hereinabove specifically set forth in this paragraph under designations (a) to (m), inclusive, shall cause any change in the guaranteed maximum price. No change shall be made in the guaranteed maximum price more than one time within any six months' period to reflect the effect of (i) and (k) above; however, other changes shall be made effective as of the date of such other increases or decreases.

The guaranteed maximum price shall not be subject to adjustment, except as above provided in this Section 8, during the first five years after date on which "A" mine is first in normal operation. If at any time, however, after the guaranteed maximum price has been in effect for four and one-half years subsequent to

at the then current price during the course of the negotiations or other proceedings provided for herein for readjustment of the guaranteed maximum price; similarly, Buyer is required and obligated to purchase during the term and subject to the provisions of this agreement at least the guaranteed minimum tonnage of coal at not exceeding the price provided for in this Section 8 hereof unless this agreement is cancelled in accordance with provisions of Section 2 a or Section 4 hereof, or the provisions of this Section 8.

9. Billing

The Seller shall bill the Buyer not later than the tenth of each month, and Buyer shall pay said billing not later than the twentieth of such month, for coal delivered hereunder during the preceding month. Such monthly billing shall be on a tentative basis and shall be adjusted at the end of each calendar quarter under this agreement on the basis of the actual price determined as provided for in Sections 7 and 8 hereof for such calendar quarter. Upon such adjustment Seller shall, not later than one month after the expiration of such quarter, invoice or credit Buyer on the basis of such actual price for the coal delivered during such quarter and Buyer or Seller shall pay any balance thus determined to be due within one month from the date of any such invoice. The billing for the period from the date on which coal is first delivered to Buyer hereunder to the end of the first full calendar quarter thereafter shall be at a mutually agreed upon price and shall be adjusted on the basis of actual price as above provided, at the end of such calendar quarter; thereafter the tentative billing during such succeeding calendar quarter shall be on the basis of the actual price per ton for the immediately preceding calendar quarter, provided nevertheless that changes in billing to reflect any change in wage scales or other major change in cost which can be immediately established shall be made promptly upon the occurrence of such changes. During any period of excusable interruption hereunder not longer than six months in duration when no coal is shipped by Seller to Buyer, Seller shall invoice Buyer for and Buyer shall pay to Seller the costs (of the nature provided for in this agreement) which are incurred during such period and which are not covered by insurance. Within one month after Seller's books have been audited by its independent accountants after the end of each calendar year hereunder, Seller shall make any further adjustment as may be rendered necessary by such audit and shall submit such audit pertaining to "A" mine to Buyer for its concurrence or protest, which shall be made within two (2) months, and when such audit has been concurred in by Seller and Buyer, or if not concurred in, when any dispute in regard thereto has been determined by arbitration, the Seller shall invoice or credit Buyer on the basis of any such adjustment for the coal delivered during such calendar year and Buyer or Seller shall pay any balance thus deter-

of the drawing away of water from the American seam area thus relieving or decreasing the necessity of the pumping of water from the American seam area as the result of such mining operations in such other coal seams, then Buyer and Seller shall jointly determine whether such other mining operations in drawing away such water have in fact decreased the cost of mining such coal, and, if so, the extent of any such decrease, but if Buyer and Seller cannot so agree, then Seller's claim shall be submitted to arbitration as provided for herein and if Seller's claim shall be substantiated by said arbitrators and the extent of said decrease in cost is fixed by said arbitrators, or if Buyer and Seller shall agree to the extent of such decrease in cost without arbitration, then the Seller shall thereafter have the right to add the amount of such decrease in cost as an element of cost in determining the price to be paid by Buyer to Seller for coal received by Buyer hereunder during the period of time that such condition causing such decrease in cost shall continue. Whenever after such an increase or decrease has been established and placed in effect either party shall claim that the cause of such increase or decrease in cost has been overcome or eliminated and that no further effect should be given to such increase or decrease then the parties shall jointly determine whether such cause has been overcome or eliminated and whether no further effect should be given to such increase or decrease and if the parties cannot so agree then the matter shall be submitted to arbitration as provided for herein.

12. Limitation or Allocation of Liability of Buyer

a. While the term "Buyer" is used throughout this agreement to refer to Alabama Power Company, Georgia Power Company and Gulf Power Company, collectively, it is agreed that the liability of Alabama Power Company for the obligations (other than for the power lines mentioned below) imposed upon or assumed by Buyer under the terms of this agreement, including the obligation to purchase and pay for coal or to make any other payments hereunder, shall be and is hereby limited to thirty-three and one-third per cent (33-1/3%) of the total obligation or liability of the Buyer hereunder; that the similar liability or obligation of Georgia Power Company shall be and is hereby limited to thirty-three and one-third per cent (33-1/3%) of the total obligation or liability of Buyer hereunder, and that the similar liability or obligation of Gulf Power Company shall be and is hereby limited to thirty-three and one-third per cent (33-1/3%) of the total obligation or liability of the Buyer hereunder. It is further agreed that neither Georgia Power Company nor Gulf Power Company shall be under any obligation or duty to provide electric power lines to the mine site as required of Buyer under the provisions of Section 1 b hereof, and that the obligation or duty of Alabama Power Company to provide such electric power lines is to do so only pursuant to and under

as hereinafter provided for. The designation of the person to be notified or the address of such person may be changed by Seller or Buyer at any time or from time to time by giving thirty (30) days' written notice of intention so to do.

14. Agent for Buyer

Southern Services, Inc., an Alabama corporation, is hereby designated by Buyer as agent for Buyer and for each of the companies constituting or composing Buyer, jointly and severally, to act for and on behalf of Buyer for the purpose of giving or receiving any notice, demand or request required or authorized by this agreement, for the purpose of designating the quantity, size, destination and routing of coal to be shipped from time to time to Buyer hereunder, and for such other purposes as may from time to time be designated by Buyer. Buyer may designate a new agent from time to time by giving Seller thirty (30) days' notice in writing of intention so to do, and in that event the authority of Southern Services, Inc., as agent for Buyer shall cease and the newly designated agent shall be substituted therefor.

15. Waivers

Any waiver at any time by any party hereto of its rights with respect to any other party, or with respect to any matter arising in connection with this agreement, shall not be considered a waiver with respect to any subsequent default or matter.

16. Arbitration

In the event of any dispute, difference of opinion or controversy between the parties as to any question of fact which may arise under this agreement, and in the event of any failure or inability of the parties to arrive at a mutual agreement with respect to matters provided to be mutually agreed upon between the parties herein (excepting failure or inability to agree to a new maximum price as provided for in Section 8 hereof), either party shall have the right to request arbitration by giving written notice thereto to the other party, in which event each party agrees to appoint a competent and reasonable person skilled in the subject matter of the issue in dispute as an arbitrator. Should either party fail to appoint an arbitrator within ten (10) days after giving or receiving such written notice an arbitrator for such party shall be appointed by the person who is then acting as Senior Judge of the United States District Court for the Northern District of Alabama in the manner hereinafter provided. If, within a reasonable time, the two arbitrators are unable to agree as to the determination of the questions submitted to them, they, within ten (10) days after such inability to agree becomes apparent, shall appoint a third arbitrator and the decision of the majority shall be final and binding on the parties hereto as to such matters that are submitted and determined by the arbitrators. Should the two arbitrators be unable to agree

event Buyer exercises its right contained in Section 3 of this agreement to require an increase in production at "A" mine, then a further development period shall commence and extend from the date of the commencement of such further development period until (a) such further development period, in the opinion of Seller, is completed, or (b) the first day of the month following the first month in which "A" mine attains the required increased productive capacity, whichever first occurs. (This definition is for the purpose of accounting hereunder by the parties hereto and is not intended as necessarily controlling or determinative of the handling of any developments or development period or periods hereunder for state or federal income tax purposes.)

"Ton" or "net ton" means two thousand (2000) pounds avoirdupois.

18. Construction of Agreement

This agreement shall be construed in accordance with the laws of the State of Alabama.

19. Assignment

This agreement shall not be assigned or transferred by either party without first obtaining the consent in writing of the other party thereto. The agreement shall, however, inure to the benefit of and be binding upon the successor, by merger, consolidation or otherwise, of each party hereto. Should the federal government or any agency or instrumentality thereof take over the operation or ownership of the property or properties of either party hereto this contract shall nevertheless not be subject to cancellation because of such taking over so long as said government or agency or instrumentality thereof shall comply with the terms of this agreement.

IN WITNESS WHEREOF, the parties hereto have executed this agreement by their officers thereunto duly authorized, as of the day and year first above written.

EXHIBIT A

STATE OF ALABAMA
JEFFERSON COUNTY

CONTINGENT LEASE

THIS AGREEMENT, made and entered into as of the the..... day of _____, 19____, by and between ALABAMA BY-PRODUCTS CORPORATION, a corporation organized and existing under and by virtue of the laws of Delaware (herein called Lessor), as party of the first part, and such associated or affiliated company of ALABAMA POWER COMPANY, GEORGIA POWER COMPANY, or GULF POWER COMPANY, as may be nominated or designated by said Power Companies, to execute this lease agreement (herein called Lessee), as party of the second part; PROVIDED, HOWEVER, that if Lessor is not at the time of the execution of this contingent lease agreement satisfied as to the financial responsibility of such associated or affiliated company it may require the performance of the obligations of such company as Lessee hereunder to be guaranteed by a financially responsible party;

WITNESSETH:

WHEREAS, the parties hereto have entered into an agreement for the opening by Lessor of a coal mine and for the sale to Lessee of the coal produced therefrom (which said agreement is herein called "A" Mine Agreement) to which said "A" Mine Agreement this Contingent Lease is attached and made a part as Exhibit A;

NOW THEREFORE, the Lessor, for the considerations and subject to the terms, conditions and covenants hereinafter set forth, hereby grants to the Lessee the right and privilege, upon the contingency hereinafter set forth, of mining and removing by the underground method only the coal in the American seam in the lands hereinafter designated.

1. Contingency and effective date

This Contingent Lease shall be and become effective only in the event that the option provided for in Section 2 a of the "A" Mine Agreement is exercised by the Buyer therein designated in accordance with the provisions thereof, and that the payment provided for in said Section 2 a is paid by the Buyer and accepted by the Seller therein designated. In the event of the exercise of such option and of the making and acceptance of such payment the date such payment is paid and accepted shall be the date on which this Contingent Lease and all of the terms, conditions and covenants hereof shall be and become effective.

2. Lands leased hereunder

The lands leased hereunder shall be those fee and mineral lands

the right to use said railroads, roads and ways for purposes of its operations other than mining operations; and shall have the right to construct, maintain and operate in, under, over or upon said lands all of such power lines, pipe lines, drill holes, ventilating shafts, shafts, slopes and openings as may be necessary or proper for the mining and removing of said coal and the preparation of same for use; and shall, have the right to occupy and use such portion of the surface of said lands as may be necessary or proper in connection with the construction, maintenance and operation of equipment, facilities, machinery and buildings of all kinds proper or necessary for Lessee's use in mining and removing said coal and preparing the same for use.

b. Mineral lands

As to the lands leased hereby in which the Lessor owns only the mineral and mining rights, the Lessor grants to the Lessee such rights, but only such rights, as it has and can lawfully grant as the owner of such mineral and mining rights.

c. Reservation by Lessor

i. Mining in other seams

Lessor shall have, and hereby reserves to itself, its successors, agents or assigns, the right to mine and remove the coal in all seams in the lands leased hereunder, except the American seam, to the extent that the mining and removal of the coal from such seam or seams does not unduly interfere with Lessee's mining operations on the American seam in such lands.

ii. Use of railroad

Lessor shall have and hereby reserves the right to connect with and use the railroad serving "A" mine to the extent that such use does not unreasonably interfere with Lessee's use of such railroad. Lessor shall pay Lessee, or, if such railroad is owned by any person, firm or corporation other than Lessee, Lessor shall pay such person, firm or corporation a reasonable compensation for the use of such railroad; in the event of any dispute as to such compensation between the parties hereto the same shall be submitted to arbitration as provided for herein.

4. Royalty

a. Tonnage royalty

Lessee shall pay Lessor not later than the 20th day of each month eighteen cents (18¢) per ton of two thousand (2000) pounds for all coal mined under this agreement during the immediately preceding month. Such payment shall be based upon mine weights of the Lessee evidenced by statements to be furnished by it to the Lessor on or before the 10th day of each month which statements shall show the exact amount of coal mined during the immediately preceding month. Mine

Lessor to terminate this agreement because of the failure of Lessee to mine coal or pay the minimum royalty herein provided for shall be suspended during the time that the mining, removal or transportation of said coal become impossible by reason of any of the aforesaid causes. No strike or labor trouble, and none of said other causes, shall be considered as being included within the meaning of this paragraph if it is of shorter duration than one full calendar month.

5. Manner of operation

Lessee shall mine said coal in a proper and workmanlike manner, in accordance with good mining practice and substantially in the same manner as is Lessee's practice in the same seam in similar mines, or in a better manner, and in any event so as to entail no unnecessary loss or waste; it is agreed however that Lessee shall not be required to mine from said leased lands coal which is not recoverable coal as the same is hereinafter defined.

a. Pillars

In prosecuting the mining of the coal hereunder, Lessee shall be permitted to provide under the portion of the leased lands to which Lessor does not own the surface, pillars reasonably adequate to prevent damage to said surface, and in all portions of said leased lands shall be permitted to provide pillars reasonably adequate to protect the other seams of coal in said leased lands, also railroads, transmission lines, telephone lines, pipe lines or other easements or rights-of-way thereon owned by third persons, also to protect public roads, easements and rights-of-way thereon and shall be permitted to provide barrier pillars adequate to protect Lessee's workings from any streams over or adjoining said leased lands. Except as above provided, Lessee shall be permitted to remove or "rob" any and all pillars, but shall do so in such manner as not to block-off any otherwise recoverable coal or unreasonably to affect the other seams of coal in said leased lands, or the mining and removal of coal therefrom.

b. Notice of completion or abandonment of area

Lessee shall notify Lessor whenever Lessee has completed or abandoned, or proposes to complete or abandon, the removal of coal within any panel or working entries or similar area in said leased lands, and, in order that Lessor may ascertain whether or not Lessee has removed all recoverable coal therefrom and otherwise has complied with the conditions hereof, the entries, air-courses and all other workings in said area proposed for completion or abandonment, shall for a period of thirty days after said notice by Lessee to Lessor with respect to said completion or abandonment, be kept open, unobstructed and reasonably free from water in order that Lessor may make such surveys and inspections as it may deem necessary. Where pillars are to be pulled or

and Lessee shall pay Lessor for all of such unmined recoverable coal, if any, as so agreed upon or determined by arbitration, at the rate of 18¢ per ton of 2000 pounds after making proper allowance for rock and washer loss. Lessee shall thereupon have the right to mine and remove all recoverable coal so paid for by it, and all other rights herein granted in respect to the mining and removal of coal, for and during a further period of years after the date of the expiration or termination of this lease, or of the extension hereof, equal to the total amount of recoverable coal determined to be remaining in said seam in said leased lands divided by a specified annual rate of removal of not less than 300,000 net tons annually. If any recoverable coal paid for by Lessee should remain in said seam in said leased lands at the time said further period of years expires then the same shall at said time revert to and become the property of Lessor free from all interests and rights of Lessee. Nothing herein contained shall be deemed to grant Lessee any right to mine or remove, after the expiration or termination of this lease, or of the extension thereof, any coal, except the amount of recoverable coal so paid for by Lessee, except upon written agreement of the parties in respect thereto.

b. Recoverable coal

The term "recoverable coal" wherever used in this agreement shall mean all coal in said American seam in said leased lands where the seam is not less than forty-four inches in total thickness and the aggregate thickness of the coal is not less than thirty-seven inches and which coal would be considered practically and customarily recoverable under good mining practice in this district, excluding, however, any coal in any pillar or barrier provided for in Section 5 a hereof.

i. Where an area of coal otherwise defined as recoverable coal hereunder is separated by a fault or an area of coal which does not meet said specifications for recoverable coal, said coal so blocked off shall be deemed to be recoverable coal if, in the circumstances of the particular case, said coal would be deemed practically and customarily recoverable in accordance with the usual mining practice in the district in the mining of the particular seam.

ii. Where coal defined as recoverable coal is blocked off, damaged, destroyed or otherwise made unminable as a result of the negligence of Lessee, its servants, agents, employees or contractors, or as a result of the failure to mine coal hereunder in a proper and workmanlike manner, as aforesaid, or as a result of Lessee's mining operations on lands not owned by Lessor, said coal shall, for the purposes of payment by Lessee to Lessor for unmined recoverable coal, be deemed recoverable coal.

iii. In the event of dispute between the parties hereto in connection with coal not proposed to be recovered by Lessee, or

taxes now or hereafter imposed by the State and Federal governments, either or both, on the mining or sale of said coal.

10. Indemnity

Lessor shall not be liable for any claims for damages or compensation which may in any way arise from the exercise by Lessee, its servants, agents, employees or contractors, of the rights herein granted, or of any of them or in any way growing out of said mining operations by Lessee, its servants, agents, employees or contractors, and Lessee agrees to and does hereby indemnify, protect and hold harmless the Lessor against any and all loss suffered by Lessor as the result of any claim or demand made upon it or any judgment or decree rendered against it arising from the exercise by Lessee, its servants, agents, employees or contractors, of the rights herein granted or at any time or in any way growing out of said mining operations by Lessee, its servants, agents, employees or contractors.

11. Termination

a. In the event of failure by Lessee to comply with any or all of the terms and conditions herein set out, Lessor shall thereupon have the right to terminate this agreement at any time by giving to Lessee thirty (30) days' notice in writing of its intention so to do specifying the default complained of, and at the expiration of said thirty days, unless Lessee shall have made good the default or shall have taken steps as shall be reasonably adapted to the curing of said default without delay, this lease shall terminate, the liability of Lessee to pay for unmined recoverable coal, if not theretofore paid for, as provided for hereinabove shall become immediately effective, and any and all rights of Lessee under this lease except the right to mine and remove subject to the terms of this agreement, the recoverable coal paid for, shall cease and determine. Default authorizing the termination of the lease, however, shall not be held to have matured in respect to any matter as to which bona fide dispute of fact exists as to the method of mining or as to the coal which should be removed or paid for hereunder or any other operating detail unless and until the same shall have been determined by agreement or arbitration as provided herein.

12. Arbitration

In the event of any difference of opinion or controversy as to whether mining operations are being conducted in accordance with approved mining methods, or as to any other matter of fact involved in the performance of this agreement, or necessary to proper accounting by Lessee to Lessor, then such difference or controversy, if not adjusted by agreement of the parties, shall be settled by arbitration in the following manner: Either party may notify the other party of its desire for such arbitration and of the

15. Right to remove personal property

Upon the termination or expiration of this lease; or, in the event of the extension or renewal hereof, upon the termination or expiration of such extension; or, in the event Lessee pays Lessor for recoverable coal remaining in said leased lands, upon the termination or expiration of Lessee's right to mine and remove such coal; Lessee shall have the right to maintain on Lessor's property at Lessee's risk during nine months thereafter, and may within such period remove, providing that all sums owed by Lessee to Lessor shall have first been paid, all of its structures, improvements, railroads, facilities, material, equipment and supplies from Lessor's property and if Lessee does not remove the same, or any part thereof, from Lessor's property within such nine months' period then such of same as is not removed within such period shall thereupon become Lessor's property. Lessee further agrees upon such final expiration or termination (or, as to any individual item, upon Lessee's determination that the same is no longer needed), to and shall properly fence, cover, block or otherwise safeguard each and every drill hole, slope, shaft, opening, pit, structure or hazardous condition made, constructed, installed or used by it in its mining operations on said leased lands.

16. Term

Unless earlier terminated as provided for herein, this lease shall be for a period commencing with the effective date hereof, as provided for in Section 1 hereof, and continuing for the then remaining term under the "A" Mine Agreement or until the recoverable coal in said leased lands is earlier worked out, provided that Lessee shall have the right or option at the expiration of such term to renew or extend this lease as to all of its terms and conditions for a further period of ten (10) years, provided further that if Lessee, upon the termination or expiration of this lease, or of the extension thereof, shall have paid for the then remaining unmined recoverable coal in said leased lands as provided in Section 7a hereof, this lease shall be further extended for the period of time provided for in said Section 7a.

17. Assignment

This lease shall not be assigned or transferred by either party hereto without first obtaining the consent in writing of the other party thereto. This lease shall however inure to the benefit of and be binding upon the successor, by merger, consolidation or otherwise, of each party hereto. Should the Federal government or any agency or instrumentality thereof take over the operation or ownership of the property or properties of either party hereto this contract shall nevertheless not be subject to cancellation because of such taking over so long as said government or agency or in-

EXHIBIT B
DESCRIPTION OF "A" MINE LANDS

		Number of Acres	
	<i>Fee</i>	<i>Min.</i>	<i>Total</i>
Section 32-16-6			
E $\frac{1}{2}$ -NE $\frac{1}{4}$	80		80
W $\frac{1}{2}$ -NE $\frac{1}{4}$		80	80
All-NW $\frac{1}{4}$		160	160
W $\frac{1}{2}$ -SW $\frac{1}{4}$		80	80
E $\frac{1}{2}$ -SW $\frac{1}{4}$	80		80
All-SE $\frac{1}{4}$	160		160
	<u>320</u>	<u>320</u>	<u>640</u>
Section 33-16-6			
SW $\frac{1}{4}$ -NE $\frac{1}{4}$		40	40
All-NW $\frac{1}{4}$	160		160
NE $\frac{1}{4}$ -SW $\frac{1}{4}$		40	40
NW $\frac{1}{4}$ -SW $\frac{1}{4}$	40		40
SW $\frac{1}{4}$ -SW $\frac{1}{4}$		40	40
SE $\frac{1}{4}$ -SW $\frac{1}{4}$		40	40
All-SE $\frac{1}{4}$		160	160
	<u>200</u>	<u>320</u>	<u>520</u>
Section 34-16-6			
S $\frac{1}{2}$ -NW $\frac{1}{4}$	80		80
NE $\frac{1}{4}$ -SW $\frac{1}{4}$	40		40
NW $\frac{1}{4}$ -SW $\frac{1}{4}$		40	40
S $\frac{1}{2}$ -SW $\frac{1}{4}$	80		80
All-SE $\frac{1}{4}$	160		160
	<u>360</u>	<u>40</u>	<u>400</u>
Section 3-17-6			
All-NE $\frac{1}{4}$	160		160
All-NW $\frac{1}{4}$	160		160
NE $\frac{1}{4}$ -SW $\frac{1}{4}$	18.8	21.2	40
NW $\frac{1}{4}$ -SW $\frac{1}{4}$	40		40
SW $\frac{1}{4}$ -SW $\frac{1}{4}$		40	40
SE $\frac{1}{4}$ -SW $\frac{1}{4}$	30	10	40
W $\frac{1}{2}$ -SE $\frac{1}{4}$	80		80
	<u>488.8</u>	<u>71.2</u>	<u>560</u>
Section 4-17-6			
N $\frac{1}{2}$ -NE $\frac{1}{4}$	80		80
E $\frac{1}{2}$ -NW $\frac{1}{4}$	80		80
W $\frac{1}{2}$ -NW $\frac{1}{4}$		80	80
All-SW $\frac{1}{4}$		160	160
All-SE $\frac{1}{4}$		160	160
	<u>160</u>	<u>400</u>	<u>560</u>